

Edward A. Klages
Oct. 30th, 1891.

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THE
COMPLETE WRITINGS
OF
THOMAS SAY

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ON THE
Entomology of North America.

EDITED BY
JOHN L. LE CONTE, M. D.

WITH A MEMOIR OF THE AUTHOR, BY
GEORGE ORD.

VOL. II.

BOSTON :
S. E. CASSINO & COMPANY.
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P R E F A C E.

While the index of the present volume was passing through the press, I received, through the kindness of a friend, a copy of the first edition of Say's Entomology, a work of extreme rarity, and which I had never before seen.

It contains six plates used subsequently in the same work; but as they represent in part species not previously described, the work must be cited, and I therefore subjoin a list of the figures. The date on the title page is 1817.

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Much to my regret the following error was discovered too late for insertion in the corrections on page 790.

Page 328 line 10, for L. GUTTATA read L. 6-GUTTATA.

A typical specimen of this species in Dr. Melsheimer's collection is the same as *Leptostylus interruptus*, (*Amniscus interruptus* Hald.)

A typical specimen of *Elater viridis* (vol. 1, p. 390) in Dr. Melsheimer's cabinet, is the *Corymbites* afterwards described as *C. micans* Germar. The other species of Say, mentioned by me as not determined, do not exist in the collections either of Dr. Melsheimer or of the late Dr. Harris.

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ENTOMOLOGICAL WRITINGS

OF

THOMAS SAY.

[From the Journal of the Academy of Natural Sciences, Vol. 1, No. 2;
June, 1817: pp. 19—23]

Descriptions of several New Species of North American Insects.

Order *COLEOPTERA*.

Genus *CICINDELA* Linn. Fab. &c.

Antennæ inserted into the anterior margin of the eye. Palpi filiform, the intermediate and posterior ones nearly equal, penultimate joint of the latter hairy. Thorax short. Elytra flat, rounded at the tip. Clypeus shorter than the labrum.

1. *C. FORMOSA*, American Entomology, Plate VI.* [Plate XVIII: ante, 1, 35.]

2. *C. DECEMNOTATA*, American Entomology, Plate VI. [Plate XVIII: ante, 1, 34.] [20]

3. *C. DORSALIS*.—Brassy: elytra white; two curved lines on each, suture and curved branch near the base green: lip and tail pale. Inhabits New Jersey.

Head brassy, naked, with green edges. Labrum, mandibles and palpi white; tips of the mandibles and terminal joint of the palpi dusky. Thorax brassy, varied with green, margin and back longitudinally hairy. Scutel green. Elytra white, irregularly punctured; suture green, a lunated branch on each elytron terminating at the middle of the base; disk with two abbreviated lines, of which the anterior is curved outwards and the posterior one inwards, respectively terminating at one of the ends opposite the cen-

*These reference are to the suppressed first edition of the American Entomology, which I have never seen. The first volume of the second edition reprinted in this work was published in 1824.—Lec.

tre of the other. Body beneath hairy on the sides; hair short, prostrate, cinereous; last segment of the abdomen and tail yellow. ish. On the sea beach of New Jersey; numerous.

[Afterwards described by Dejean as *C. signata*.—LEC.]

4. *C. HIRTICOLLIS*.—Dull brownish-cupreous, beneath green; trunk and head with cinereous hair; lip white; [21] outer margin of each elytron white, with two abbreviated bands, and an intermediate refracted one; trochanters purple.

Inhabits North America.

Head coppery, varied with green and blue. Labrum and base of the mandibles white. Thorax very hairy, impressed lines blue. Elytra punctured irregularly with green, a marginal lunule at base, the extremities of which are almost equally prominent; the band is divaricated on the margin so as to join the anterior lunule, but it is interrupted before the terminal lunule, abruptly refracted at the centre of the elytron and curved near its termination, towards the suture. Body beneath green, very hairy.

Length rather more than half an inch.

Common in Pennsylvania, very much resembles *C. trifasciata*, for which it is probable it has generally been mistaken.

[This description is very indefinite, but the expressions 'thorax very hairy,' and 'band divaricated on the margin so as to join the anterior lunule,' lead me to refer it to our common sea shore species afterwards described as *C. albohirta* Dej.; the figure given by Say in the Transactions of the American Philosophical Society (infra) represents perfectly that species. It does not live within the limits of Pennsylvania, though on the banks of rivers beyond the Mississippi it is occasionally seen.—LEC.]

5. *C. PUSILLA*.—Above black, obscure; elytra with two lunules and a recurved band, white. Body beneath black-blue, or greenish. Trochanters testaceous.

Inhabits with the first. [Kansas and Nebraska.]

Elytra with a marginal lunule at base and another at the tip, both very narrow and white; an intermediate band, divaricate on the margin, recurved at the middle of the elytron and terminating near the suture behind. Labrum and base of the mandibles whitish; the four basal joints of the antennæ purple.

Length not quite half of an inch. Found by Mr. Nuttall. The band is often obsolete, or only detached portions of it are visible, the enlarged marginal part is permanent.

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Genus NEMOGNATHA Illiger, *Zonitis* of Fabr. and Latr.

Maxillæ very much elongated, inflected, filiform.

N. IMMACULATA.—Lemon yellow, immaculate. Elytra with scattered punctures. Maxilla not longer than the thorax, and with the antennæ and palpi black.

N. IMMACULATA, American Entomology, plate III. [Plate VII.; ante, 1, 13.]

Inhabits the plains of the Missouri.

Antennæ black, basal joint pale testaceous. Eyes, maxillæ, palpi, tips of the thighs and tarsi black. Elytra irregularly punctured, naked, polished.

Comes near to the description of *Zonitis pallida* of Fabricius, but that insect is said to be large, and may probably be a true *Zonitis*. Our specimens are not more than half the size of *N. vittata*.

Found on thistles (*Cardui*) by Mr. Nuttall: numerous.

Genus ZONITIS Fabricius and Latreille.

Maxillæ not elongated. Antennæ with the first and the third joint of the same length, the second a little shorter, the third and following cylindric, the last one fusiform, terminating abruptly in a short point.

Z. BILINEATA.—Ferruginous. Elytra pale yellowish, with a black fillet. Scutel black.

Inhabits with the preceding on thistles. Nuttall. [23]

Antennæ black, the two basal joints ferruginous. Eyes black. Elytra naked, punctured, the fillet occupies the middle of each elytron and is abbreviated at the base and apex. Scutel black. Tibia fuscous. Less than the preceding insect. In its color and appearance, except as to size, it resembles *N. vittata*.

Order DIPTERA.

Genus DIOPSIS Linn.

Head furnished with two inarticulate, immoveable horns. Eyes situated at the extremities of the horns. Antennæ small, placed beneath the eyes.

D. BREVICORNIS—Black, pedicels short, not so long as the interval between the bases. [Ante vol. 1, p. 116.]

Inhabits Pennsylvania.

Head rufous; vertex brown, thorax blackish, a little blended 1817.]

with cinereous, a lunate impression on each side before, an impressed band on the middle interrupted on the back; and an impressed angulated one behind. Lateral spines short, black; posterior ones longer, rufous. Wings fasciated with brown near the apex. Feet rufous, thighs, and tibia towards the tips, blackish, anterior thighs thickened. Poisers white. Abdomen black immaculate.

Length rather more than three-twentieths of an inch.

Extremely rare; I found but a single individual in May last seated on a leaf of the Skunk Cabbage, (*Pothos foetida*) near the Wissahickon Creek a few miles from this city. This insect will be considered as a most interesting addition to the American Fauna. (*Achias* Fab.)

The insects above described I believe to be new, at least they are not noticed in any book to which I have access.

[From Vol. 1, No. 3: pp. 45—48.]

Some account of the insect known by the name of Hessian Fly, and of a parasitic insect that feeds on it.

Read June 24th, 1817.

Order *DIPTERA*.

Genus *CECIDOMYIA*.

Genus *Tipula* of Linné and Degeer. *Chironomus* of Fabr. *Trichocera* of Lamarek. *Cecidomyia* of Latr. and Meigen.

Antennæ filiform, joints subequal, globular, hairy. Proboscis salient. Wings incumbent, horizontal.

C. DESTRUCTOR.—Head and thorax black; wings black, fulvous at base; feet pale, covered with black hair.

Inhabits the Northern and Middle States.

Body clothed, with short black hairs; head black; antennæ shorter than the body, somewhat smaller toward the tip, verticillate, joints moniliform, separated by a hyaline filament. Thorax gibbous, black, glabrous, and polished. Scutel prominent, color of the thorax rounded behind. Wings ciliate, rounded at tip, blackish, the fulvous color of the base is sometimes extended upon the nerves of the wing, paler and gradually disappearing before the middle; longer than the abdomen. Feet long, slender, [46] thighs fulvous at base, furnished at the tip with

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several very acute claws. Poisers, pale nearly as long as the thorax, with a suboval capitulum. Breast sometimes fulvous. Abdomen brownish.

Female.—Antennæ longer than the thorax, the joints somewhat oval, not separated by filaments. Abdomen elongate-oval, above rectilinear, beneath somewhat ventricose, fulvous, with a dorsal and ventral black vitta widely interrupted by the sutures. Tail more or less acute in the dead specimen in proportion as the oviduct is exerted.

Length rather more than three-twentieths of an inch.

Eggs elongated, linear, pale fulvous.

Larva.—Body somewhat fusiform, whitish; tail acute, rather abruptly attenuated; head incurved and attached by the mouth; above hyaline, exhibiting an internal, abbreviated, visceral, green line; beneath with opaque white clouds, which in the young animal are perfectly separate and about nine on each side, with an intermediate series of smaller ones; as the larva advances to its full stature, these unite so as to exhibit the appearance of regular transverse segments; near the anterior extremity are the rudiments of feet resembling obsolete tubercles, or crenulæ; when taken from the culm it is almost inert, exhibiting very little motion to the eye.

Length three-twentieths of an inch, breadth one-twentieth.

Pupa.—Resembles the mature larva, but is of a dark reddish-brown color; and appears perfectly inert.

This well known destroyer of the wheat has received the name of "Hessian Fly," in consequence of an erroneous supposition, that it was imported in some straw with the Hessian troops during the revolutionary war. But the truth is, it is absolutely unknown in Europe, and is a species entirely new to the systems—being now for the first time described. The insect described by Mr. Kirby in the Trans. Lin. Soc. of Lond. vol. iv. p. 232, and named by him *Tipula Triticæ*, is without doubt of the same genus with this, but specifically distinct. [47]

The history of the changes of this insect, is probably briefly this:—The eggs are deposited by the female in different numbers from one to eight, and perhaps more, upon a single plant of wheat, and in so doing the parent exhibits another instance of that provident care for the welfare of her offspring, which is so strongly evinced by many of the insect race. The egg is not placed at the axilla of either of the leaves indifferently, but display-
1817.]

ing some portion of botanical knowledge, the fly carefully insinuates her elongated oviduct between the vagina of the inner leaf and the culm nearest the root of the plant, where the larva when excluded from the egg will be in immediate contact with the culm, from which alone its nourishment is derived. In this situation, with the body inverted, the head being invariably towards the roots, or if above, towards the first joint, the infant larva passes the winter. The pressure and puncture of the insect in this state of its being, upon the culm, produces a longitudinal groove of sometimes sufficient depth to receive almost one-half of the side of its body. When several of them are contiguous on the same plant, the pressure on the body of the larva is unequal, and an inequality in the form of the body is the consequence, as well as the destruction of the plant which is subjected to their attack. The perfect fly appears early in June, lives but a short time, deposits its eggs and dies; the insect from these eggs complete the history by preparing for the winter brood.

Order *HYMENOPTERA*.

Genus *CERAPHRON* Latr.

Antennæ infraacted, moniliform, ten or twelve jointed, basal joint long, cylindrical. Abdomen subovate. Inferior wings without apparent nerves. Superior wings with a costal nerve, and a single branch, forming an incomplete radial cellule.

C. *DESTRUCTOR*.—Black, granulated; abdomen glabrous, polished; feet, and base of the antennæ, whitish. [48]

In the Larva of Cecidomyia destructor.—Head black, opaque, sometimes brassy, granulated over its entire surface; eyes not prominent, rounded in compliance with the curve of the head, and with the stemmata, red-brown; antennæ pale brown, furnished with short cinereous hairs, the two basal joints pale yellowish; the terminal ones in the male a little dilated and approximated so as to form an obvious ovate-acute mass. Thorax with the granulæ equal to those of the head; black, usually brassy before the line of the base of the wings; nerve of the wings pale brownish; feet whitish with black apophysis. Abdomen ovate-acute, perfectly black, highly polished and furnished with a few short hairs; the segments of the base are sometimes pale yellowish or testaceous. Length one-tenth of an inch.

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This is often mistaken for the Hessian fly, in consequence of being found in wheat fields in vast numbers during the devastation committed there by that insect, and many have been deceived by the specious circumstance of its evolution from the pupa itself of the destroying larva, under their own observation. But the truth is the *Ceraphron* belongs to that vast tribe of insects included by Linnè under the Genus *Ichneumon*. True to the manners of its kind the parent deposits her eggs within the bodies of the larvæ of the *Cecidomyia destructor*, through a puncture made by her acute oviduct for the purpose; the young, when disclosed from the egg, feeding securely within the body of the larva, at length kills it, but not in general until after its change into the pupa state. Protected by this indurated covering, the parasite undergoes its change, and appears in the perfect state, about the latter part of June. It seems probable that this insect prevents the total loss of our wheat crops, by restraining the increase of the *Cecidomyia* within certain bounds. The *Ichneumon Tipulæ* of Mr. Kirby is congeneric with this, but is doubtless specifically distinct.

[From vol. 2, 1821: pp. 11—14.]

Descriptions of the Thysanouræ of the United States.

Read Nov. 21st, 1820.

Genus MACHILIS Latr.

Eyes compound, occupying almost all the head; [12] abdomen beneath with an appendage for leaping: tail with three styles, of which one is above the others.

M. VARIABILIS.—Superior caudal process more than double the length of the others: false feet bisetous at tip: color cinereous or iridescent, varied with black.

Inhabits North America.

Cabinet of the Academy.

Body above cinereous, somewhat iridescent, varied with black; gibbous portion of the body not differently colored; a more or less regular whitish vitta; false feet white, hirsute, setaceous at 1821.]

tip : superior caudal process more than double the length of the inferior ones.

Var. a. Body above unicolor, destitute of the white dorsal vitta.

Var. b. Body ferruginous, with dusky lateral spots.

Var. c. Body with several snowy spots each side.

A common insect in many humid places, probably in almost every temperate part of North America. We observed it as far south as East Florida. It is subject to a great many variations.

Genus PODURA.

Antennæ four jointed, filiform, terminal joint entire; body cylindrical: trunk distinct.

1. *P. FASCIATA*.—Body yellowish-white with four distant black bands; tail black; bands [13] paler beneath; spring white; antennæ blackish; eyes black.

Length one-twentieth of an inch.

Cabinet of the Academy.

In considerable numbers under the bark of decaying live oak, &c., in Georgia and East Florida.

2. *P. BICOLOR*.—Body plumbeous; feet with a few hairs, rather paler at base; nails small, acute: spring large, white; eyes deep black.

Length from one tenth to three-twentieths of an inch.

Cabinet of the Academy.

Our most common species, under stones, &c.

3. *P. IRICOLOR*.—Body blackish iridescent; thorax with long hairs before; abdomen hairy at tip; feet hairy, whitish; head beneath and antennæ hairy.

Length nearly one fifth of an inch.

Cabinet of the Academy.

Inhabits Pennsylvania, common.

Genus SMYNTHURUS Latr.

Antennæ attenuated towards the tip, four-jointed, ultimate joint composed of many smaller ones; trunk and abdomen united into a rounded mass.

S. GUTTATUS.—Body yellowish white, with numerous reddish-brown, irregular spots, disposed in bands; numerous, sparse,

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white hairs, and two tubercles each side of the middle, which are truncated at tip; beneath white; antennæ reddish-brown, hairy; face maculated, a line of irregular spots [14] behind the eyes; eyes black; spring flesh-colored.

Length rather more than one-twentieth of an inch.

Cabinet of the Academy.

Found under the bark of the long leaved Pine (*P. palustris*) in Georgia.

[From Vol. 2, 1821; pp. 59—83.]

An account of the ARACHNIDES of the United States.

The following descriptions of the *Arachnides* of this country, which respire by means of tracheæ in the manner of insects, may be regarded as the continuation of a series of essays, of which the "account of the Crustacea," &c., is the first, on the vast orders of articulated animals with articulated feet, (Annulosa of Cuvier) natives of this country. As the nature of this journal precludes the introduction of old matter or known facts, I shall confine myself in its pages, to the description of such of these animals only, as appear to be unknown to naturalists, or to the elucidation of such, as from their obscurity, are not understood.

Subclass I. *CEPHALOSTOMATA*.

Order 1st, *PODOSOMATA*.

Genus *ANAPHIA.†

Pl. 5. fig. 7.—a, Trophi.

Artificial Character.—Mandibles longer than the rostrum, first joint longer than the second; palpi none; nails single.

Natural Character.—Body very slender, composed of four segments bearing feet, and a small suboval caudal process; head prominent, not perceptibly contracted behind, and consisting of a prolongation of the anterior segment of the body: eyes four, [60] inserted on a common tubercle, upon the top of the head: mandibles robust, didactyle, inserted at the extremity of the head, porrected, parallel, two-jointed, longer than the rostrum, first joint

*From α , without, and $\alpha\phi\eta$, *tactus* the touch.

elongated attaining the tip of the rostrum ; hand abruptly inflected upon the tip of the rostrum : rostrum porrected, cylindrical, truncated at tip, shorter than the body, and inserted beneath the first segment ; palpi none ; feet eight, filiform elongated, slender : coxæ three-jointed, the middle one longest : thighs one-jointed ; tibiæ, two-jointed : tarsi two-jointed, the first very short ; nails single, arcuated, capable of being inflected.

A. PALLIDA.—Body whitish : ocular tubercle acute at tip ; eyes sanguineous ; hands suboval, slightly hairy, not dilated, inflected vertically, and with the fingers, hardly more than two-thirds the length of the preceding joint ; fingers arcuated, crossing each other near the tip ; a small, rather acute tubercle at the base of the anterior feet (probably the rudiment of the egg-bearing organ ;) coxæ second joint clavate ; tibiæ first joint rather shorter than the second.

Length of the body one fourth of an inch.

Span of the feet one and one half an inch.

Inhabits the coast of South Carolina.

Cabinet of the Academy.

Of this new genus I found two specimens in the bay of Charleston, S. C., upon the branches of the *Gorgonia virgulata*, and as they have not the egg-bearing organs, I suppose them to be males. This [61] animal resembles *Phoxichilus* in being destitute of palpi, but differs from it in having didactyle mandibles and simple nails. In the form of the mandibles it resembles *Nymphon* and *Am-mothæa* but the want of palpi distinguishes it from those genera, its proper situation is probably next to the genus *Phoxichilus*. It unquestionably, is generically the same with *Phalangium aculeatum* of Montague, (Trans. Lin. Soc. vol. 9, tab. 5,) which Dr. Leach, in the article Crustaceology of Brewster's Encyclopædia, refers to the genus *Nymphon*, but which, as far as I can discover, he has omitted in his subsequent works. It will of course be a second species of this new genus.

Order II. POLYMEROSOMATA.

Family 2. SCORPIONIDÆ.

Genus BUTHUS Leach. *Scorpio* Latr.

Palpi brachiform, didactyle ; eyes eight ; abdomen terminated by a caudal process of six articulations, of which the terminal one is armed with a venomous aculeus.

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B. VITTATUS.—Fuscous, with three fulvous vittæ; sides black.

Inhabits Georgia and Florida.

Cabinet of the Academy.

Body above granulated, granules irregular, distant, three fulvous equal vitta, and an elevated, interrupted vertebral line; sides black, rugose, beneath white; thorax reddish-brown, more scabrous before [62] and behind, hardly marked by the vitta, submarginate before, and divided by a longitudinal impressed line, region of the dorsal eyes blackish; palpi longer than the body, with granulated lines, carpus with three or four of the granules more conspicuous; hand subovate, greatest diameter about equal to that of the preceding joint; fingers filiform, incurved, longer than the hand, reddish brown, furnished with numerous minute teeth feet paler than the palpi, minutely granulated above and beneath; caudal process color of the palpi, longer than the body, with granulated costa, those of the penultimate segment not more conspicuous; terminal segment subovate, slightly mucronate beneath the aculeus, the costal granulæ minute.

Length from tip of the palpi to tip of the caudal process, one inch and seven-tenths.

I found numerous specimens of this species on the sea islands of Georgia and in East Florida, hybernating beneath the bark of trees.

The wound inflicted by the puncture of their aculeus, causes much pain and intumescence, but is readily cured by the topical application of the volatile alkali.

The species to which *vittatus* is allied, are the *punctatus* of Degeer and *americanus* of Linné, but according to Latreille (v. Sonnini's Buffon) these are both spotted with brown, the caudal process of *punctatus* being of the length of the body and that of *americanus* three times the length of the body. [63] It is however very possible that our species may be a variety of *punctatus*.

Genus CHELIFER Geoff, Leach.

Palpi brachiform, didactyle; thorax with the first segment divided by a transverse indented line; eyes two; mandibles short.

1. C. MURICATUS.—Third joint of the palpi nearly three times 1821.]

as long as the second, linear, gradually a little attenuated to the base ; thorax muricated.

Inhabits North America.

Cabinet of the Academy.

Body ovate, narrowed before, rounded behind ; thorax black-brown opake, gradually narrowed from the base to the tip of the mandibles, armed with numerous short, robust spines ; feet rufotestaceous ; palpi rufous basal joints subglobular, gibbous behind third joint cylindrical, nearly three times longer than the second, armed with short rigid hairs, and gradually attenuated to the base, fourth joint shorter but somewhat larger than the preceding one, and gradually much attenuated to its base ; hand black-brown, above oblong subovate, laterally linear, fingers as long as the hand paler, incurved and furnished with a few elongated, flexible hairs ; abdomen above black-brown, and with the feet furnished with minute, spine-like hairs, segments margined with obsolete pale testaceous.

Length rather more than one-tenth of an inch.

[64]

Common in decaying wood, under bark, in houses, under stones, &c. I found a variety on the river St. John, in East Florida, of which the anterior portion of the abdomen and posterior part of the thorax is rufous. This species considerably resembles *C. Hermannii* of Leach, (Zool. Misc. vol. 3, p. 49.)

2. *C. OBLONGUS*.—Second joint of the anterior feet hardly twice as long as the first, rather larger towards the base ; thorax polished.

Inhabits North America.

Cabinet of the Academy.

Body oblong, sublinear : thorax reddish-brown, polished ; testaceous at base, rather abruptly attenuated from the middle to the tip, and with abbreviated flexible hairs, instead of spinules : feet pale, testaceous ; palpi reddish-brown, with dilated, short joints, and furnished with numerous flexible hairs, second and third joints subequal, the latter rather shorter and dilated in the middle : hands ovate, almost truncated at base ; fingers shorter than the hand, and with a few longer hairs ; abdomen above brownish, slightly hairy, polished, margins of the incisures testaceous. Smaller than the last.

Occupies the same situations as the preceding. It bears con-
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siderable resemblance, in the form of the palpi, to the *C. Geoffroyi* of Leach, (Zool. Misc. p. 50.) This species, as well as the preceding, are readily distinguishable from the *Phalangium acaroides* of Linné, by the mutic antepenultimate segment of the palpi.

Order 3. *DUOMEROSOMATA*.

Family 2. *PHALANGIDÆ*.

Genus *PHALANGIUM*.

Body rounded; feet elongated; tarsi with numerous joints; mandibles salient much shorter than the body: eyes two, supported on a common tubercle.

1. *P. VITTATUM*.—Whitish, with a dorsal fuscous vitta; terminal joint of the palpi not pectinated with spines.

Inhabits the Southern States.

Cabinet of the Academy.

Body whitish, truncated and fuscous behind, a dorsal fuscous vitta from the clypeus to the cloaca and lateral fuscous line, above with dense, obtuse granules, beneath with distant ones; three profoundly impressed lines before the middle, of which the anterior one is semicircular including the ocular tubercle, the intermediate one transverse, and the posterior one recurved; ocular tubercle prominent, slightly contracted at base, crowned with from four to six more conspicuous, acute spines: clypeus not elevated, concave beneath the obtuse tip; feet, second pair about fifteen times as long as the body; tarsi capillary, articulations not contracted.

Length, female nearly one-fifth of an inch. Male much smaller.

The armature of the ocular tubercle is obsolete in the male, and in this sex there are generally two whitish [66] lines, drawn from the base of the ocular tubercle to the tip of the clypeus, which are also sometimes visible in the female.

I have not found these *in coitu*, but have considered them of the same species, from their being associated and somewhat similar in form and markings.

2. *P. DORSATUM*.—Whitish with a dorsal fuscous vitta, joints of the palpi armed with a series of spines.

Inhabits the United States.

1821.]

Cabinet of the Academy.

Body rounded behind, whitish, a dorsal fuscous vitta continued from the clypeus to the cloaca, and obsoletely punctured with whitish, a few submarginal, obsolete, irregular lines or spots; granules dense, obtuse, not prominent; ocular peduncle prominent, contracted at base, slightly muricated before, obsoletely granulated; clypeus not elevated; palpi rather long, robust; second, third, and fourth joints pectinated on the exterior edge with acute, distant spines; fifth joint more densely pectinated on the inner edge: feet armed with minute distant spines; coxæ blackish; pectus with distant very distinct, obtuse granules; radical supports of the feet with a moniliform line each side in the incisures; venter nearly glabrous, granules indistinct: tergum not deflected.

Length of the female one-fifth of an inch.

Very similar in color to the preceding, but sufficiently distinct by the spinulose palpi, &c.

3. *P. NIGRUM*.—Body ovate, blackish: clypeus [67] prominent; radical joint of the three anterior pairs of feet armed with a spine; pectus and base of the feet white.

Inhabits the Southern States.

Cabinet of the Academy.

Body ovate, a little dilated each side behind the posterior feet, blackish, with a few obsolete paler spots, above and beneath above granulated, granules spherical, irregularly placed in somewhat reticulated lines; ocular tubercle destitute of spines, with obtuse granules; clypeus prominent, somewhat elevated; feet short, fuscous, whitish at base; second pair hardly four times as long as the body, and, with the first pair, armed with a prominent, cylindric, obtuse spine behind the basal joint; third pair with a similar spine before; pectus whitish; venter blackish.

Length, female nearly one-fifth of an inch.

A very distinct species, and not uncommon in the Carolina's and Georgia.

4. *P. GRANDIS* [GRANDE].—Body oval, covered with short spines; ocular tubercle spinous; feet rather short.

Inhabits the Southern States.

Cabinet of the Academy.

Body oblong-oval, scabrous, with approximated, robust, short,

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acute, spinules; rufo-ferruginous, two impressed transverse lines before the middle; ocular tubercle prominent, slightly contracted at base, crowned with numerous, robust, acute spinules; clypeus hardly elevated; feet rather short; pectus with numerous, minute acute granules; venter with but few. [68]

Length, female nearly-seven-twentieths of an inch.

Much the largest species I have seen.

Genus GONYLEPTES Kirby.

Feet moderate; tarsi from six to ten-jointed; mandibles chelate; maxillæ none; palpi unguiculated.

G. ORNATUM.—Ocular tubercle hardly elevated, unarmed; hind feet remote; two erect spines behind.

Inhabits Georgia and Florida.

Cabinet of the Academy.

Body ovate reddish-ferruginous, destitute of granules, edge slightly contracted over the insertion of the fourth and fifth pairs of feet, two small acute tubercles on the middle of the disk, and two large, prominent, erect, acute spines on the hind margin, no impressed line before the middle, an anterior arcuated yellow transverse line connected to a posterior undulated one by a yellow line which is crossed near the middle by two obsolete yellow bands; ocular tubercle slightly raised, unarmed; distance between the eyes much greater than their diameters, orbits black; clypeus abruptly somewhat acute in the middle of the tip: mandibles rather small, the fingers subequal, and crossing each other at tip; palpi robust, and when at rest concealing the mandibles; penultimate articulation dilated on the exterior side and elongated and depressed: terminal joint half as long as the preceding, cylindrical; terminal nail elongated, moveable capable of being inflected; [69] feet short, not three times as long as the body, three anterior pairs before the middle, posterior ones behind the middle and remote from the others; fourth and fifth pairs with double nails: abdomen, segments with a series of equidistant, minute tubercles.

Length one-fifth of an inch.

This remarkably distinct species, we first discovered on Cumberland island Georgia, and subsequently many specimens occurred 1821.]

in East Florida, where it appears to be common. It is not an inhabitant of the Northern States.

Family 3. *ARANEIDEÆ*.

Although I have a considerable number of descriptions of *Araneides*, which I think are new, yet, as I am not sufficiently well acquainted with the species of this family, in their different ages, prudential motives induce me to refrain from publishing them until further investigation shall qualify me for the task.

Order 4. *MONOMEROSOMATA*.

Genus *TROMBIDIUM*.

Body consisting of a thorax and head united and distinct from the abdomen; two anterior pairs of feet distant from the others; eyes pedunculated, lateral; palpi with a moveable appendice beneath their tips.

1. *T. SCABRUM*.—Body ovate, broadest and very obtusely rounded before, pale reddish, minutely scabrous, surface unequal, with numerous [70] indentations, and with hardly perceptible hairs; thorax obtriangular, short: eyes white; feet whitish.

Cabinet of the Academy.

In forests, on trees, &c.; not uncommon.

2. *T. SERICEUM*.—Body oblong-subovate, broadest before, narrowing behind, densely covered with short silken hair; thorax elongated, sublinear, slightly contracted before the middle, and with a darker, central line above: eyes white, placed in a transverse line; feet paler, whitish.

Cabinet of the Academy.

Inhabits trees, in forests, under stones, &c., and is more common than the preceding.

Genus *ERYTHRÆUS* Latr.

Body without division, the two anterior pairs of feet not distant from the others; eyes two, sessile; palpi conic, chelate.

E. MAMILLATUS.—Body ovate, granulated, reddish-yellow, with a marginal impressed line, edge thickened, a robust, obtusely conic, granulated spine on the anterior lateral edge, before the middle of the disk two indented punctures, a few distant hairs; eyes approximated, whitish; mandibles granu-

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lated, a rounded tubercle on each of the middle above; feet paler than the body, yellowish, with scattered hairs.

Less than one-twentieth of an inch.

Under bark of trees, &c. Georgia and East Florida. [71]

Genus GAMASUS Latr.

Mouth with mandibles; palpi prominent, very distinct, fili-form; pulvilli at the apex of the tarsi.

1. *G. ANTENNÆPES*.—Body ovate, rufous, somewhat narrowed before, hairy and coriaceous; edge of the abdomen membranaceous, white; feet, anterior pair filiform, antennæform, longer than the body, remaining pairs much more robust, subequal, posterior thighs tridentate near the inferior tip; origin of the palpi with five or six acute spines above.

Cabinet of the Academy.

I have frequently observed this species, inhabiting, in considerable numbers, the body of *Passalus cornutus*. The fore feet are, as their slender appearance indicates, used as antennæ to feel the way, and not as feet to support the body.

2. *G. SPINIPES*.—Body suboval, hirsute, rufous; feet with rather longer distant hairs, second pair very robust, third joint armed beneath with a large, prominent, acute, spine, which is nearly as long as the transverse diameter of the joint, compressed, slightly serrated on its anterior edge, and with an accessory tooth or two at its base: fourth joint with an obtuse tooth beneath, sixth joint with a robust spine before its inferior middle, first and third pairs unarmed, fourth pair dentate beneath the third and fourth joints.

Cabinet of the Academy.

Inhabits ———.

[72]

Remarkable by the prominent spine of the second pair of feet.

3. *G. MUSCULUS*.—Body pale, oval, with scattered hairs more numerous each side; feet paler, with a few hairs above, two anterior pairs distant from the others, anterior pair longest, second pair rather more robust.

An active little animal, found in great numbers on an anonymous species of *Mus*, which inhabits East Florida.

5. *G. NIDULARIUS*.—Body oblong-oval, somewhat depressed, with a slightly elevated margin, and with scattered hairs, whitish 1821.]

with internal blackish clouds, and two impressed points in the middle of the back; feet paler, with a few hairs.

Cabinet of the Academy.

Less than one-fortieth of an inch.

Inhabits *Hirundo viridis*, their nests and young. I am indebted for specimens to Mr. Reynall Coates.

5. *G. JULOIDES*.—Body oval, pale brownish, depressed, behind vesicular and whitish, the coriaceous epidermis of the tergum terminating before the vesicular posterior margin in an emargination; feet short and very robust; pulvilli dilated, very short.

Cabinet of the Academy.

I obtained several specimens from the body of *Julus marginatus*. I have also observed it on *Polydesmus virginienensis*. [73]

Genus ORIBITA Lat.

Body coriaceous, capitate or rostrated before, palpi and mandibles concealed within the mouth; feet terminated generally by three nails, without pulvillus.

1. *O. CONCENTRICA*.—Black, opaque; tergum concentrically lined; venter plain.

Inhabits Pennsylvania.

Cabinet of the Academy.

Body spheroidal, black, opaque, rounded before and carinated behind, invested with a brown epidermis; disk with about four elevated concentric circles, connected by numerous interstitial elevated lines; posterior carina crenate in compliance with the concentric lines; head, subtriangular, rugose; oral aperture oval, closed by a valvular mentum; eyes two, minute, brownish, elevated on an elongated, slender filiform peduncle; orbits elevated, rather large, placed near the base of the head above; feet rather short, deep black, minutely granulated, terminated by three incurved nails; venter plain, granulated, valves of the cloaca somewhat lined.

A rather common insect, it moves very slowly, and inhabits beneath the bark of trees. I have found it, most frequently, beneath the bark of the common *Carya* (Nuttall) tomentosa.

2. *O. GLABRATA*.—Body glabrous, polished, globular-oval black.

Inhabits Georgia and East Florida.

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Cabinet of the Academy.

Body spheroidal, somewhat oval, glabrous, polished, black; head longitudinally semi-oval; eyes sessile, near the base of the head each side, remote; feet hairy, pale testaceous, subequal, shorter than the body.

I found this species several times under stones, &c. It is sluggish in its movements, like other species of this genus; when alarmed or in danger the feet are thrown forward together over the mouth, and the whole of the thorax is then deflected upon the anterior part of the body; in this state the general form is a solid oval.

Genus BDELLA Latr.

Palpi elongated, terminated by setæ; rostrum conic; eyes four; posterior feet longest.

B. OBLONGA.—Body oblong-oval, bright red, paler in the middle and beneath, with a few scattered hairs; rostrum nearly half as long as the body, with two or three pairs of stouter hairs; palpi four jointed, resembling arms; first joint destitute of hairs and longer than the others conjunctly; second and third joints very short; fourth joint longer than the two preceding ones, attenuated towards the base and truncated at tip, with several short hairs and two terminal setæ longer than itself, of which the inner one is rather shorter; feet hairy, subequal, pale, the posterior ones rather longer. [75]

Length rather more than one-twentieth of an inch.

Found in Georgia, under stones, under bark of decaying trees, &c., in rather moist situations.

Genus IXODES Latr.

Palpi short, simple, valvular, forming with the haustellum a short rostrum; mandibles none; feet with a pedunculated pulvillus and two nails; eyes obsolete or wanting.

1. I. ANNULATUS.—Body oval, pale reddish-brown, tinged with sanguineous, particularly behind, and with several longitudinal and oblique, black, abbreviated lines, scattered punctures, and three abbreviated, longitudinal impressed lines behind; rostrum, with the palpi dilated, rather suddenly contracted at base, and annulated more prominently beneath with about two elevated lines, which on the sides produce an angulated appearance. 1821.]

ance, much shorter than the haustellum, rounded at tip; haustellum, the two superior organs emarginate at tip, exterior division dentate beneath, inferior organ with numerous resupinate teeth resembling fenestrate punctures; posterior to the origin of the palpi above is an orbicular, obscure assemblage of punctures resembling eyes; black dorsal lines of the male somewhat regular, consisting usually of a dorsal line divaricating before, and behind, the middle, furnishing a branch each side, which at the tip of the abdomen [76] is confluent with a lateral line, which also branches off in two or three short lines towards the feet; feet with a short robust nail, and a reclivate pedunculated pulvillus and nails.

Found in considerable numbers on a *Cervus virginianus*, in East Florida.

2. I. ORBICULATUS.—Body nearly orbicular, slightly narrower before, punctured, ten or twelve longitudinal, abbreviated impressed line on the posterior margin, marginal impressed line none, two longitudinal indented lines before the middle; head transverse subquadrate, posterior edge very obtusely rounded, the posterior angles complying with the general curve; palpi oblong, sublinear.

Cabinet of the Academy.

Found inhabiting *Sciurus capistratus* of the Southern States.

3. I. CRENATUS.—Body ovate, with distant deeply impressed punctures, posterior margin lobated by ten or twelve profoundly indented lines, which are abbreviated by an impressed submarginal line, which becomes gradually obsolete before the lateral middle; posterior edge crenulated; thorax none, distinct; head, posterior edge transversely rectilinear, angles slightly arquated backward and rounded at tip; palpi oblong, sublinear and regularly rounded at tip.

Cabinet of the Academy.

Found in the Southern States, the color is reddish, [77] sometimes slightly varied with whitish, particularly behind, and the lobate divisions of the posterior margin are sometimes whitish above, and the disk is obsoletely lineated with black.

4. I. ERRATICUS.—Body oblong-ovate, gradually narrowed before, sides hardly arquated, with distant punctures, those behind more deeply impressed, posterior margin with ten or twelve

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impressed lines which are abbreviated by a submarginal impressed line, two abbreviated lines before; head, posterior edge transversely rectilinear, angles extended backward abruptly, and subacute; rostrum rather short; palpi oval-orbicular.

Found in the Southern States; the color is reddish or ferruginous, with acute black lines.

5. *I. VARIABILIS*.—Body oblong-ovate, gradually attenuated before; sides hardly arquated; a few remote, deeply impressed punctures not more numerous behind; posterior margin with about twelve impressed, abbreviated lines; a lateral, impressed, punctured, submarginal line, obsolete behind; two deeply indented, abbreviated lines before; head, hind edge rectilinear, angles abruptly a little extended backwards, acute; rostrum rather short; palpi ovate; color reddish or ferruginous varied with white, incisures of the feet white.

Very much resembles the preceding in form; the white of the back is more or less reticulated, and the [78] feet are white above, or only their joints. May not this be *I. lineatus*, if so, my name must of course be rejected.

6. *I. PUNCTULATUS*.—Body oblong-ovate, gradually attenuated before, sides hardly arquated, crowded with impressed confluent punctures; thorax destitute of punctures, but with two impressed undulated lines; abbreviated lines of the posterior margin not deeply impressed, almost obsolete; lateral submarginal line deeply impressed, obsolete behind; head, hind edge rectilinear, angles abruptly a little projected backward, acute; rostrum rather short; palpi oval; eyes distinct, impressed: color ferruginous, thorax white lineated or varied with ferruginous, incisures of the feet white.

Considerably like the preceding.

7. *I. SCAPULARIS*.—Body red, with a few short whitish hairs; thorax blackish-oval, well defined, with numerous punctures; tergum, punctures sparsate, and four or five blackish, obsolete, dilated radii on the disk; a deeply indented submarginal line; no abbreviated marginal lines behind; edge rounded; head beneath and above blackish, posterior edge rectilinear, angles abruptly projected backward, very short, acute; eyes distinct, deeply impressed; rostrum slightly canaliculate above, paler than the head; feet blackish-red, ciliate beneath, terminal joint reclivate 1821.]

near the tip on the anterior edge; origin [79] of the anterior ones, armed behind with a large acute spine.

Rather common in forests, and frequently found attached to different animals.

S. I. FUSCOUS [FUSCUS].—Body fuscous, ovate, punctured; tergum with a few black, obsolete lines, and a profoundly indented submarginal line, posterior marginal impressed line none; no distinct thorax; edge rounded; head, posterior edge rectilinear, angles not prominent beyond the rectilinear edge; eyes not visible: palpi suboval, terminal joint rather longer than the preceding one.

Cabinet of the Academy.

A common species.

Genus HYDRACHNA Müll. Latr.

Rostrum advanced, conic; mandibles none; palpi projecting, terminated by a moveable appendage: body subglobular; feet natatory.

H. TRIANGULARIS.—Body white; eyes two, sanguineous: tergum with a black triangular spot near the eyes, posterior portion black, with a white dorsal line terminating in the cloaca.

The specimen, from which this portion of a description was taken, I found in *Unio cariosus*, in which, possibly, it had adventitiously effected a lodgement. [80]

Genus LIMNOCHARES Latr.

Rostrum hardly prominent; palpi incurved, simple; mandibles none; feet natatory.

L. EXTENDENS.—Body ovate, red, minutely lineated; tergum with a few indented points; beneath, origin of the feet paler red; feet, second and third pair ciliate with very fine and long hairs, posterior pair destitute of cilia.

Length nearly three-twentieths of an inch.

A common species, inhabiting stagnant pools, &c., in forests, and shady places. The posterior feet being destitute of ciliæ, are only useful in walking; when the animal is swimming, they are extended behind, without distinct motion. The eggs are globular, surrounded by a white gluten, and are deposited on almost any object indifferently, from two hundred to three hundred in number, arranged somewhat symmetrically in parallel,

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rectilinear, or undulated series. I have found them about the middle of May.

Genus LEPTUS Latr.

Feet six; trophi forming a capitate body; palpi conic, quadri-articulate; an obtuse tube, subconic, advanced; body soft.

1. *L. ARANEI* [ARANEÆ].—Body oval, red, with short, distant hairs; head whitish, somewhat rounded, [81] contracted, at base and acute at tip; palpi white, a little hairy, rather surpassing the tip of the head; tergum with a deeper red eye on each side over the interval between the anterior and second pairs of feet, anteriorly indented, and with two lines each of four or five indented points.

Length one-thirtieth of an inch.

Cabinet of the Academy.

Of this species, I have found a specimen adhering near the base of the palpi of an *Aranea*.

The head-like process, is sometimes retracted so as to be not prominent, but is not long withheld in this position. The body is somewhat contractile, not perceptibly as regard its length, but in its breadth, by an irregularly undulated motion of the edge.

2. *L. HISPIDUS*.—Body suboval; head with a distinct neck; palpi more robust at base; feet elongated, much longer than the body, filiform and furnished with numerous robust, incumbent, flexible setæ, about twice the diameter of the leg in length.

My Cabinet.

I took no less than ten of these animals from a *Phalangium*, to which they adhered very strongly; when feeding, they often are supported only by the rostrum and palpi, the body and feet being elevated so as to be sometimes perpendicular to the supporting surface.

[82]

Genus OCYPETE Leach.

Feet six; mouth rostrated, porrected, with mandibles; palpi elongate-conic, with a moveable appendage at base; body soft; eyes two.

O. COMATA.—Body subtriangular, very obtusely rounded behind, hirsute, and narrowed by an arquated line to the rostrum: rostrum short, narrowed and emarginated at tip; posterior feet 1821.]

longer than the body, and with much longer hairs than those of the body.

Inhabits several species of *Tipula*.

This is readily distinguishable from the *O. rubra* Leach, by the elongated hairs of the feet. The specimens in my possession, are so disposed that the trophi cannot be examined, I therefore refer them to this genus by analogy, drawn from habit, &c.

[From Vol. 2, 1821, pp. 102—114.]

Descriptions of the MYRIAPODÆ of the United States.

Read November 21st, 1820.

Class MYRIAPODA.

Order 1. CHILOGNATHA.

Genus JULUS.

Body serpentiform, cylindrical; antennæ inserted on the anterior margin of the head, second joint longest, terminal one minute; eyes distinct; feet many.

1. J. IMPRESSUS.—Brown, a series of lateral black dots, beneath yellowish-white; ultimate segment mucronate.

My Cabinet.

Body cylindrical, immarginate, above brownish, beneath yellowish-white appearing glabrous: segments each with a lateral black spot, whitish lines and dots sometimes obsolete, a transverse series of longitudinal abbreviated obsolete impressed lines, and beneath the stigmata with impressed, more distinct ones, ultimate segment mucronate, spiracles not prominent; eyes rather large, conspicuous, black; labrum yellowish white; antennæ brownish.

A common species inhabiting under stones, and in humid situations, a variety occurs with a very distinct, acute, longitudinal, dorsal line, and variegated head.

2. J. PUNCTATUS.—Body brownish, with an impressed dorsal line, impressed white dots and spots, ultimate segment unarmed.

My Cabinet.

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Body cylindrical, immarginate, above dark brown, glabrous, an obsolete, dorsal, whitish, slightly impressed, acute line; segments each with a white dot on either side above, and a larger transversely oblong lateral one, which is more completely bisected on the posterior segments into two distinct dots, which on the terminal segments resemble the dorsal ones, ultimate one abruptly narrower than the preceding and truncated, anterior segments attenuated to the head, which is wider than the anterior one, anterior segment as long as the second and third ones conjunctly; spiracles somewhat prominent; eyes very distinctly granulated, subtriangular, black; head dark-brown, labrum white.

Inhabits the same situations, and is similar in general form to the preceding species, but is less common and rather smaller. The dots, spots and lines are for the most part slightly impressed.

3. *J. ANNULATUS*.—Body with numerous, elevated, obtuse lines; of which four are above the stigmata; ultimate segment glabrous, unarmed.

Inhabits the Southern States.

My Cabinet.

Body cylindrical, immarginate, above brownish with a slight tint of red, immaculate, beneath yellowish white; segments each with about fifteen elevated obtuse lines, of which four are equal dorsal, a pyriform, larger, oblique one on the stigmata, and about ten decreasing in size to the feet, anterior segment [104] as long as the three succeeding ones conjunctly and glabrous, posterior one glabrous reddish-brown, as long as the two preceding ones, united and obtusely rounded at tip; head whitish before; antennæ white; eyes transverse linear, black: vertex not distinctly impressed.

A rather common species in the Southern States, inhabiting with the preceding and in decaying wood.

4. *J. LACTARIUS*.—Body fuscous with a rufous dorsal line, numerous elevated lines, of which about fifteen are above the stigmata, ultimate segment unarmed.

My Cabinet.

Body cylindrical, above fuscous, with a dorsal rufous vitta and an obsolete one each side; beneath yellowish white; segments each with numerous, elevated, longitudinal lines, of which about 1821.]

fourteen are above the stigmata and about fourteen below, becoming smaller to the origin of the feet, line of the stigmata geminate, anterior segment as long as the second and third conjunctly, and glabrous on the anterior half, posterior segment not so long as the two preceding ones united, widely rounded at tip; head glabrous; antennæ reddish-brown: eyes triangular, granulated, deep black.

Not uncommon under stones, &c., and when irritated discharges a lacteous globule from the lateral portion of each segment, diffusing a strong and disagreeable odor. [105]

5. *J. MARGINATUS*.—Body cylindric glabrous, blackish, segments with a rufous margin; ultimate segment unarmed.

My Cabinet.

Body cylindric, glabrous, polished, blackish, beneath pale reddish; segments margined behind with rufous, anterior segment as long as the three succeeding ones, conjunctly and entirely margined with rufous, second segment slightly, and obtusely angulated at the lateral tip of the anterior one, ultimate segment as long as the two preceding ones united narrowed to the tip which is rounded: head with an impressed line which is obsolete on the front; labrum pale, deeply and widely emarginated at the tip, with a submarginal, inflected series of ten or twelve punctures furnishing hairs, tip ciliated, reddish, obsoletely dentate.

Length more than three inches.

A very large species inhabiting decaying wood, &c.; when irritated it diffuses an odor like that of muriatic acid, and is infested by *Gamasus Juloides*. It varies in color; the margin of the segments and all beneath are sometimes white, the ultimate segment is sometimes almost acutely angled at tip, and there is a distinct lateral series of black dots.

6. *J. PUSILLUS*.—Body with a lateral series of black spots, terminal segment unarmed.

Inhabits the middle States.

My Cabinet.

[106]

Body cylindrical, immarginate, above pale, obsoletely reticulate, and varied with reddish; a lateral series of large black spots, numerous longitudinal, parallel, impressed, acute lines beneath the stigmata becoming gradually shorter to the origin of the feet; beneath whitish; head white beneath the antennæ; antennæ two joints preceeding the last somewhat dilated, not attenuated

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at their bases, nor separated by a contraction; eyes black, longitudinally sublunate; ultimate segment unarmed, longer than the penultimate one, rounded at tip and blackish.

Length nearly half an inch.

Resembles *J. impressus* in the character of lateral impressed lines, but is distinct by the unarmed terminal segment; I found it rather common on the Eastern shore of Virginia under the bark of *Pinus variabilis*.

Genus POLYDESMUS Latr.

Body elongated, linear depressed. segments with a prominent margin; eyes obsolete; feet many; antennæ, second joint shorter than the third.

1. *P. SERRATUS*.—Segments with a double transverse series of slightly raised squamiform elevations.

My Cabinet.

Segments depressed above, with four minute serratures each side, first segment transversely oblong oval, somewhat angulated on each side behind, second, third and fourth segments with but three serratures [107] first rather longer than the second, and with a single obsolete serrature near the posterior angle, each segment with a double transverse series of twelve slightly elevated, squamiform divisions, anterior segment with but a single series; head glabrous, an impressed longitudinal line on the vertex; antennæ, feet and terminal segment hairy; color, above reddish-brown, beneath yellowish white.

Common in similar situations with the preceding.

Julus virginensis of Drury, is also rather common; it appears to be synonymous with *J. tridentata* of authors. I have found specimens double the usual size in the Southern States. It seems also to vary in having only the second joint of the feet mucronate, and in being destitute of the robust ventral spines between the feet.

2. *P. GRANULATUS*.—Segments granulated, granules subequal, arranged in four series.

My Cabinet.

Body with short hair, pale tinged with red beneath, and feet paler; head dusky, with short dense hairs; labrum whitish; segments somewhat convex, granulated, granules rounded, or longi-
1821.]

tudinally oblong-oval, elevated, obtuse, approximate and arranged transversely in about four nearly regular series, anterior segment transversely oval, narrower than the head or second segment; stigmata elevated.

Found in Pennsylvania.

[108]

Genus POLLYXENUS Latr.

Body membranaceous, pennicillate with setæ at tip; antennæ inserted under the anterior margin of the head.

P. FASCICULATUS.—Body pale brown, linear, incisures ciliated fasciculated each side; head deeply ciliated before.

Inhabits the Southern States.

Segments smooth, ciliate at the incisures, and fasciculate with brown setæ each side, terminal pencil cinereous; head semiorbicular, depressed, deeply and densely ciliated on the edge with setæ: eyes small, oval, prominent, placed obliquely in the middle of the lateral margin; antennæ very short, thick reddish-brown; feet white.

Length rather more than one-tenth of an inch.

Beneath stones, &c., in humid situations; not very common.

Order 2. SYNGNATHA.

Genus LITHOBIUS Leach.

Antennæ conico-setaceous: dorsal scuta alternately much shorter and concealed.

L. SPINIPES.—Joints of the feet with short spines at tip, and a single much longer one beneath the tips.

[109]

My Cabinet.

Body chestnut brown, polished, impunctate, with short sparse hairs; segments with reflected lateral edges, first one shortest, transverse, the second quadrate with narrowed angles, five or six posterior ones, each narrowed behind and emarginate on the hind edge, the posterior angles of those near the caudal segment more acute, caudal segment truncate conico-cylindric; antennæ pale testaceous, with dense, very short, rigid hair; terminal joint as long as the two preceding ones conjunctly; feet pale testaceous, joints spinous at tip, an elongated spine at the tip of each be-

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neath, anterior pair shortest, posterior longest and more robust; labium longitudinally indented, impunctate, teeth of the tip black.

Length more than one inch.

Very common under stones, &c. The specimen from which this description was taken has but thirty joints to the antennæ.

Genus CERMATIA.

C. COLEOPTRATA Villiers. Is an inhabitant of the Southern States; we observed it both in Georgia and East Florida. It is probable, that, like a vast number of the insects now common in our country, it has been introduced by our shipping from abroad.

Genus SCOLOPENDRA.

Antennæ conico-setaceous; dorsal scuta subequal; eyes, four each side, hemispherical. [110]

1. *S. MARGINATA*.—Body obscure olivaceous green; segments margined with dark green; head castaneous.

Inhabits the Southern States.

My Cabinet.

Body obscure olivaceous green, beneath whitish or fulvous; segments impunctured, margined each side and behind with black-green; first, third, and fourth shortest, five or six terminal ones more distinctly margined; head chestnut color; antennæ green; feet pale, tipped with bluish green, nails blackish; posterior feet hardly longer than the three terminal segments of the body conjunctly; length of the joints hardly equal to double their breadth; first joint spinous beneath and within, and armed with an acute, strong, projecting angle at the tip.

Length more than two and a half inches.

Rather common in Georgia and East Florida; it is also found in the West Indies, but does not occur so far north as Pennsylvania.

2. *S. VIRIDIS*.—Body bluish green; base of the feet and all beneath whitish.

Inhabits Georgia and East Florida.

My Cabinet.

Body above bluish green, immaculate; posterior segments margined with pale yellowish; mandibles yellowish-white; feet whitish at base, terminal joints pale bluish-green, posterior pair pale yellow.

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Length about two inches and a half. [111]

I have not known this species to inhabit so far north as Pennsylvania.

Genus CRYPTOPS Leach.

Anterior edge of the labium not denticulated, hardly emarginate; eyes obsolete; posterior pair of feet longest; basal joint unarmed.

1. *C. HYALINA*.—Body much depressed, white, with a double blackish internal line; hind feet with third joint five toothed.

Inhabits Georgia and East Florida.

My Cabinet.

Head reddish-brown, polished, impunctured, with scattered hairs, no impressed clypeal line; antennæ reddish-brown hirsute, joints sessile, cylindric, terminal ones rounded: body white, polished, two black internal lines, a few sparse hairs, impunctured; feet with a few hairs; posterior feet reddish-brown, first joint not so long as double its breadth, and with the second joint armed with numerous short, rigid setæ, with an indented line above; third joint four or five toothed within, fourth joint about two toothed.

Length three-fifths of an inch.

Numerous specimens of this species occurred beneath the decaying bark of a live oak (*Q. virens*) on the River St. John, East Florida. The appearance of the posterior feet approximates it to *Scolopendra*; [112] but the eyes exclude it from that genus, as the number of the feet does from *Lithobius*.

2. *C. SEXSPINOSA*.—First joint of the posterior feet two spined.

My Cabinet.

Body reddish-ferruginous, punctured; second segment shortest, then the fourth and sixth, terminal one indented at tip, and armed beneath with a double, prominent, robust spine; antennæ with very short dense hair, joints oval, separated by a very short peduncle; feet, two moveable short spines at the exterior tip of the fourth joint; fifth joint with one beyond the middle and one at tip; posterior feet, the base beneath a conspicuous, elevated, compressed, acute, sub-triangular spine, and a smaller one on the inner side above, near the middle.

Not uncommon in decaying wood. It varies in being impunc-

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tured beneath. I have a fortuitous variety, of which the antennæ are clavate and five jointed.

3. *C. POSTICA*.—Terminal segment of the body longest; posterior feet very short and robust.

Inhabits Georgia and East Florida.

My Cabinet.

Body rufous, paler beneath, punctured; segment with two impressed, longitudinal lines above, and a deeply impressed one beneath; ultimate segment longer than the two preceding ones conjunctly, with two [113] obsolete, impressed, abbreviated lines at base, and an intermediate more distinct, continued one; posterior feet remarkably robust, hardly longer than the ultimate segment; nail very robust, as long as the two preceding joints conjunctly.

A very remarkable species, distinguished at once from all others, by the very thick and short posterior pair of feet, the nails of which cross each other, and are much used by the animal in its defence.

Genus GEOPHILUS.

Posterior pair of feet not remarkably longer than the others; eyes obsolete.

1. *G. RUBENS*.—Body attenuated before and behind; terminal pair of feet hardly longer than the preceding pair.

My Cabinet.

Body broadest in the middle, impunctured, red, with short hairs, more numerous on the antennæ and feet; segments with two longitudinal impressed lines, and a transverse acute one near the base of each; ultimate segment somewhat longer than the preceding, narrowed and rounded at tip; head beneath, with a blackish spot each side at the base of the mandibles, and another at base of the terminal joint; labium with a profound fissure, not dentated; antennæ, terminal joint longer than the preceding ones, and of equal diameter, not attenuated; feet subequal.

Very common in decaying wood, under stones, &c. [114]

2. *G. ATTENUATUS*.—Body attenuated from the head; posterior feet longer than the others.

Inhabits the Southern States.

Body broadest before and gradually attenuated to the tail; reddish-brown, with a few hairs; head and base of the mandibles 1821.]

above punctured : antennæ setaceo-filiform, with numerous short hairs ; feet paler than the body ; posterior ones longer than the others.

Found under stones, &c.

[From Vol. 2, part 2, 1822.]

On a South American species of *Æstrus* which inhabits the human body.

Read November 26th, 1822.

Many of the objects of natural history described by Linné are at present, entirely unknown, notwithstanding the laborious and ardent researches that have been made, by a multitude of observers, since the time of the great reformer. This may be in part attributed to the great rarity of some of those objects, but it may be supposed to be more particularly due to his habitual manner of attempting to concentrate all the characters of a being, in the comprehensive significancy of a few words. This excessive conciseness, appears to have been intended to check or discountenance a continuation of the habit of voluminous description, so freely used by his predecessors ; but with due deference to his vast and deserved reputation, be it said, that, in the attempt to introduce a necessary reformation in this respect, that great naturalist passed to the opposite extreme.

In common with the greater number of naturalists of the present day, I have very often felt the inconvenience of this imaginary improvement and real detriment in zoology, and heartily wish that brevity may be sacrificed to accuracy, as I am convinced that however desirable every describer may, and, indeed, ought to be, to represent the object before him in as few words as possible, he should, nevertheless, not hesitate to avail himself of as many expletives as will in all probability obviously distinguish his object [354] from others, regardless of the number of words that may be required for this purpose.

It is to be regretted that some very distinguished zoologists, perceiving as they must this grand impediment to the determination of species, still, by their example, perpetuate and increase this grievance, considering it sufficient for them to add to a very laconic description, a reference to a cabinet in which the

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specimen may be inspected, by the comparatively few persons who have the opportunity.

Now, although a reference to a cabinet specimen ought to be considered as the duty of the describer of every animal, plant or mineral, whenever such reference is at all possible, yet it nevertheless seems also indispensable, that a detailed description, including many characters, should at the same time be given for the information of the distant naturalist or traveller, in order that its utility may not be limited exclusively to our compatriots.

Amongst a multitude of short and insufficient descriptions, or rather indications, we find in Turton's edition of the *Systema Naturæ*, the following notice, translated from Gmelin, of the existence of a very remarkable insect.

"*ÆSTRUS HOMINIS*.—Body entirely brown. Inhabits South America. Linné ap. Pall. nord. Beytr. p. 157. Deposits its eggs under the skin, on the bellies of the natives; the larva, if it be disturbed, penetrates deeper and produces an ulcer which frequently becomes fatal."

This insect, for the identifying of which we have [355] manifestly to depend almost entirely on the habitat, does not appear to have been observed by any succeeding writers since it was mentioned by its discoverer. Humboldt, however, when occupied with his highly interesting travels in South America, was struck with certain tumors that he sometimes observed to exist on the bodies of the natives of that country, and which he attributed to the concealed operations of the larva of an *Æstrus*; but as he had no opportunity of verifying this conjecture by satisfactory examination, he relied upon the form and appearance of the tumors, with a recollection, probably, of the description above quoted.

Clarke, the best writer on this genus of insects, observes that the *hominis* is probably a spurious species, and he further states that it "is, perhaps, merely an accidental deposit of *Æ. bovis*, in the human body, of which there are numerous instances."*

So perfectly satisfied was Fabricius of the non-existence of the *hominis* as a distinct species, that in his *Systema Antliatorum* he has taken no notice whatever of this name and description.

* Rees' Cyclopædia, article Bots.

The most eminent of living entomologists, Mr. Latreille, observes* that neither of the authors who have mentioned this insect, saw it in its perfect state; he therefore thinks it probable, that the larvæ to which they had reference, were those of the *Musca carnaria* [356] of Linnæus, or some other analogous species; for, he adds, all the larvæ of *Æstrus* known, live on quadrupeds of the order *Herbivora* and *Rodentia*.

Now, although I have not seen the perfect insect, in question, yet my object in this paper is to show, by the aid I think of sufficient data, that there is an *Æstrus* of South America which must be added to the catalogue of the foes of our kind, fully capable of a notable agency in augmenting the afflictions of humanity, and to prove that this species is altogether distinct from *bovis*, to which the ingenious Clark was disposed to refer it.

A few days since, Dr. Harlan presented to me for examination, a small animal preserved in alcohol, that resembled, at first view, a parasitic worm, but, on a slight inspection, it became evident that it was no other than the larva of a species of *Æstrus*; he informed me that he had received it from Dr. Brick, who had extracted it from his own leg, during a journey in South America.

Desc. The form of this larva is clavate, the posterior [anterior. —LEC.] moiety of the whole length being dilated and somewhat depressed; the segments of this portion are armed with transverse series of small, black, horny tubercles, dilated at their bases, near their tips rather suddenly diminishing to a filiform curved hook, pointing forwards with an acute termination; these series are six in number on the back and sides, placed in pairs, and three in number on the abdomen; near the posterior [anterior] termination of the body are [357] numerous minute tubercles of the same character with the others, excepting that they conform to no regular series; the anterior [posterior.—LEC.] moiety of the body is entirely glabrous, cylindrical, or rather elongate conic, of a much smaller diameter than the posterior [anterior] portion, and truncate at the tip; the lips at the posterior [anterior] termination of the body are short, and the intervening fissure of but little width.

Total length eleven-twentieths; greatest width more than three-twentieths of an inch.

* Nouveau Dict. d'Hist. Nat. article *Æstre*.

Cabinet of the Academy.

Obs. From this description we may gather the facts, that the larva in question corresponds with that of *Æ. bovis* in being destitute of hooks or holders at the mouth, but it widely differs in general form, as the larva of *bovis* is oblong-oval, hardly more narrowed at one end than at the other. The appearance of the series of minute hooks which subserve the functions of feet, in the latter species; also are very different from that of the corresponding armature of this larva, the superior line of each double series being narrow, and seemingly composed of but a row of hooks, whilst the inferior line is much more dilated, and the hooks far more numerous than in the superior line; indeed, the series of hooks of the South American larva are more like those of the larvæ of *Æ. equi* and *hæmorrhoidalis*, than those of the imperfect *bovis* or *ovis*. But independently of those considerations, the single character of the much attenuated form of the anterior [posterior] part of the body of this larva, at once and eminently distinguishes it from any [358] other yet known in this family; while at the same time, the above description, taken in conjunction with its habitat, forbids the supposition of its belonging to any other group, and will, I think, justify the restoration to its place in the system of the Linnæan *Estrus hominis*. To which of Latreille's recently established genera it belongs, is at present impossible to determine, though, for the present, it may, perhaps, be not unsafe to refer it to the *Cute[re]bra** of Clark.

Since the above was read to the Academy, Dr. Harlan has furnished me with the following interesting extract of a letter, which he received from a gentleman from whose leg this larva was extracted:—

“After a very sultry day's march, and being very much fatigued, I went to bathe in the Chama, a small stream emptying in the lagoon of Maracaibo. Not long after coming out of the water, I received a sting from some insect, in the left leg, over the upper and fore part of the tibia; it was several days attended with a considerable degree of itching, but without any pain, and I continued on my journey some few days longer without experiencing much inconvenience, except during several periods of

* Weidmann in a letter states to me his preference of the term *Trypoderma* for this genus.

perhaps two or three minutes continuance, when an acute pain came on suddenly, and was severe whilst it continued, and then as suddenly subsided. On my arrival, and during my continuance at Il. Rosaria de Cucuta, I walked [359] with difficulty; there was a considerable tumefaction over the tibia, which had the appearance of ordinary bile (phlegmon;) in the centre there was a small black speck; the usual applications were used without any success, and the tumor became more irritated and inflamed, and thus it remained for some days, attended at times with a most acute pain, which for a few minutes was almost intolerable.

"In returning to Maracaibo, I had to descend the Cottatumba in an open boat, without any shelter, and being wet to the skin by the cold rains which fell every night, I suffered much, and was almost constantly tormented by the tumor, which became more painful at those particular periods than usual; during this passage, which lasted for twelve days, I was induced to scarify it, and had recourse to the usual topical applications, but without success. At times I imagined that I felt something moving, and suspected that there was something alive beneath the skin.

"After my return to Maracaibo I became scarcely able to walk, and was, in a manner, confined to my quarters. In this situation I continued two weeks longer, the tumor having begun to discharge, and without any diminution of the painful periods.

"Being now nearly worried out, it occurred to me to try a poultice of tobacco, which was used for several nights, having previously scarified the tumor; during the day I frequently dusted it with ashes of segars: as an ingredient I used rum instead of water [360] in making the poultice. On the fourth morning after this remedy, I felt considerable relief, and on the fifth, with a forceps, I drew out the worm which you have now in your possession, and which was then dead.

"In a few days the sore assumed a healthy look, and in ten days was perfectly healed up, although, at times, I yet experience a heavy pain in the part from whence the worm has been taken. It had travelled on the periosteum along the the tibia for at least two inches. The severe pain which I experienced from those periods, I attribute to the irritation of some of the branches of the nerves distributed to the parts by the worm in its progress.

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Respecting this worm there are different opinions among the Spaniards and Creoles. *Ouche* is the name it is called by some, who say it is produced by a worm which crawls on the body, from the ground, and penetrating the skin, increases in size. Others maintain that they are produced from the sting of a winged insect which they call *Zancudo*,* others again, call the insect *Husano*; for my part, I am rather inclined to think that they are produced from the sting of a winged insect, which deposits its egg.

"N. B. Should it even be proved that the form of the anterior part of this larva is owing to the violence used in extracting it, of which there is no appearance, still it will stand as distinct from other known species."

[The larva above described, is now supposed to be that of *Cuterebra noxialis* Goudot, for the characters of which see *Annales de la Société Entomologique de France*, 2d series, 2, xli. For a detailed discussion of all the facts known on the subject of *Æstri* in the human body, consult Keferstein, über *Æstrus hominis* Verh. Zool. Botan. Vereins in Wien, 1856, 637.

While travelling in Honduras, several of my companions were very much afflicted with similar larvæ; they seem to infest particular portions of the body not usually exposed; the pectoral, dorsal and lumbar regions, the thighs and upper parts of the arm. When the eggs were deposited, was entirely unknown to the patients, none of them having ever observed a fly alight on the body; but from the position of the parasite, it is most probable that the eggs were laid while the patients were bathing. The effects of these intruders are very much exaggerated in the text; they produce a swelling, having the appearance of an ordinary boil, in which, at times, is felt, for a few seconds, an acute pain when the worm moves; the method of extraction is very simple, and but moderately painful. The tumor is held between the thumb and forefinger, a lighted segar is approached to the skin as near as the patient will permit, when the worm becomes restless, and the point of his body will be seen at a very minute orifice in the skin, not before obvious; the segar is immediately dropped, and with both hands the tumor is compressed violently; the worm is thus forced out, sometimes with

*The word *Zancudo* is used by the South American Spaniards to denote several species of *Culex*.—S.

such velocity as to be projected several inches. No inflammation or discharge follows, but the sac immediately closes and heals.

Sometimes the worm is so small as to resist this mode of extraction; a piece of tobacco leaf is then gummed over the tumor, (usually with an exudation from the skin of a plantain;) the worm dies in a few hours, and is then readily removed by squeezing the part. I have nothing to add to the description of the larva in the text, as emended by me, except to say that my specimens were regularly clavate, not at all depressed; the form mentioned above was perhaps owing to contraction, produced by the liquor in which the specimen was preserved. The figures given by Mr. Goudot are regularly oval, and not at all clavate. The name *Gusano del Monte* is commonly applied to the worms by the natives, while the insect is called *Zancudo gusano*; the word *Zancudo* means simply long legged, and it is difficult to understand how it could be applied to a species of *Cuterebra*. The natives assured me that the fly was frequently seen, that it was of a grey color, and resembled an ordinary mosquito, except in being larger. I imagine that some species of *Tipula* was meant. A similar superstition in the United States has conferred upon those harmless insects the fearful title of *Gallinipers*.—LEC.]

[From Vol. 3, 1823.]

Descriptions of Dipterous Insects of the United States.

Read Dec. 24th, 1822.

The dipterous insects, from which the following descriptions are drawn out, were chiefly collected by myself, during the late expedition to the Rocky Mountains under the command of Major Long, and patronage of Mr. Calhoun, the present Secretary of War.

Of these insects, many appear to be common inhabitants of the United States, throughout the immense region included by the Rocky Mountains and the Atlantic ocean, between the parallels of latitude 35° and 41° north; others are probably restricted to the Western States, and some were seen only in the vicinity of the Missouri river; along the base of the great northern Andes, where numbers of new and highly interesting animals and plants

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were for the first time detected by the party, interesting animals of the order under consideration were also collected. The specimens are in my cabinet.

CULEX Linn.

1. *C. PUNCTIPENNIS*.—Body dark rufous, covered with cinereo-ferruginous hair; feet elongated; wings maculated.

Inhabits the United States.

Orbits, bright cinereous; eyes deep black; antennæ and proboscis deep fuscous or blackish immaculate; thorax dark rufous, with obsolete blackish lines, and covered with cinereo-ferruginous hair; wings hairy, dusky, with a hardly perceptible pale band beyond the middle, and obsolete dusky spots; scutellum glabrous, dark rufous, with a longitudinal bluish vitta; halteres yellow at base; feet elongated, deep fuscous or blackish; pectus each side above the posterior feet plumbeous.

It is probable this is the species which Fabr. considers as the same with the *pulicaris* of Europe; it is common on the Mississippi, and troublesome to travellers. When the insect is at rest, the wings being incumbent, one on the other, the pale band is very distinct; when recent, the eyes are greenish-blue. I observed this species in considerable numbers on the Eastern shore of Maryland. The dusky spots on the wings of this species, are occasioned by the thicker growth of hair in those parts.

[Belongs to *Anopheles*: Wiedemann has changed the name to *A. crucians*.—SACKEN.]

2. *C. 5-FASCIATUS*.—Body clothed with cinereous hair; abdomen annulate with blackish.

Inhabits the Western States.

Eyes deep black; antennæ fuscous, region of the base paler; proboscis black; thorax with a dilated dorsal fuscous vitta; pectus each side varied with blackish; halteres entirely whitish; scutellum glabrous; wings with dusky nervures, immaculate; feet moderate, fuscous; thighs whitish; abdomen cinereous; tergum with five black, broad fasciæ; tail black above. [11]

Length about one-fifth of an inch; proboscis one-tenth of an inch.

This is an exceedingly numerous and troublesome species. We found them in great numbers on the Mississippi in May and 1823.]

June. The hairy covering is very deciduous, and when an individual is caught by hand, the back of the thorax, in consequence of being denuded by the touch, exhibits the dorsal vittæ of a blackish color confluent at the base, with an oval black spot on each side. The abdominal annuli are sometimes fuscous or even light brown.

Legs much shorter than those of the preceding species, but like them in not being annulated.

[Also an *Anopheles*: Wiedemann has named it *A. ferruginosus*.—SACKEN.]

2. *C. DAMNOSUS*.—Rostrum and tarsi annulate with white.

Inhabits Pennsylvania.

Head above with rather long yellow-ferruginous hair; antennæ pale-brownish; rostrum blackish; with a broad white band on the middle; thorax black, with three cinereous lines, and clothed with yellow-ferruginous short hair; scutell dull testaceous; pleura grayish; feet pale, covered with blackish hairs; joints of the tarsi, excepting the first, whitish at their bases; tergum brown, basal margins of the segments cinereous-whitish.

Length a quarter of an inch.

This is one of the most common and troublesome of our mosquitoes. It seems to correspond in some degree with the *cingulatus* Fabr., although we must infer from his description, that the posterior tarsi [12] only are annulated. Wiedemann considers the *cingulatus* as the male of his *molestus*, of which all the tarsi are annulated, like those of our species. I feel, however, perfect confidence in the description of Wiedemann, and therefore must consider our species distinct, inasmuch as the thorax is not “lateribusque niveis;” and from the laudable accuracy of that author, I cannot suppose that he would have overlooked the annulation of the proboscis, which certainly exists in this species.

[Wiedemann has changed the name to *C. tæniorhynchus*.—SACKEN.]

4. *C. TRISERIATUS*.—Anterior margin of the wings fuscous; tergum with white spots on each side.

Inhabits Pennsylvania.

Body brown; stethidium livid-brown; thorax with white hair each side; pleura with two spots of white hair; feet pale, covered

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with dusky hair; thighs naked, blackish above near the tip; tergum with a triangular white spot at the base of each segment on each side; each of these spots extends upon the venter in the form of a band, interrupted each side of the middle; thus forming three spots on each series upon that part, the middle ones of which are almost connected into a longitudinal line.

Length one-fifth of an inch. ♀.

The white spots contrast strongly with the brown color of the abdomen.

CHIRONOMUS Meig. Wied.

1. *C. LOBIFERUS*.—Segments of the abdomen with a lobe at their bases. [13]

Inhabits the United States.

Antennæ yellowish-brown; thorax pale-cinereous, the three lines testaceous; scutel and metathorax testaceous; wings white, with a brownish obsolete point near the middle; pectus testaceous; feet pale yellowish; tergum somewhat glaucous, the segments with their bases and obsolete longitudinal line black; on the middle of the base of the second, third, fourth and fifth segments is a small longitudinally oval, slightly elevated lobe, extending nearly one-third the length of the segment.

Length three-tenths of an inch.

[Wiedemann has altered the name to *C. lobifer*.—SACKEN.]

2. *C. FESTIVUS*.—Body pale, when recent light green; pectus, three thoracic lines and scutel testaceous; wings white.

Inhabits the United States.

Body pale yellowish-brown, when recent, pale-green; head at base of the antennæ testaceous; antennæ light brown; eyes deep black; thorax trilineate with testaceous; scutel testaceous; wings white, immaculate; pectus testaceous between the two anterior pairs of feet; feet pale, hairy; thighs green; tarsi dusky at the incisures; anteriors nearly naked, with hairy tarsi; abdomen, second, third, fourth and fifth segments tipped with blackish above.

Length of female, seven-twentieths of an inch.

Observed particularly in the State of Illinois.

3. *C. MODESTUS*.—Stethidium yellowish, abdomen pea-green.

Inhabits Pennsylvania. [14]

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Eyes black; antennæ, shaft brown, whitish at base; humerus, scutel, and intervals between the dilated lines of the thorax pale; wings immaculate, costal edge near the tip somewhat dusky; feet greenish-white, anterior tibia and the tarsi dusky.

Length one-fifth of an inch. ♂.

4. *C. GEMINATUS*.—Thorax fuscous; pleura gray; abdomen white, annulate with black.

Inhabits Pennsylvania.

Humerus gray, the color being a continuation of that of the pleura; pectus livid; feet white; thighs blackish, pale at base; tibia at base and tip, and tarsi at tip fuscous; abdomen with three broad double bands, formed thus: second segment fuscous with the exception of the posterior margin, third segment fuscous on the basal margin, fourth segment fuscous excepting the posterior edge, fifth segment fuscous on the basal half, sixth and seventh segments entirely fuscous.

Length three-twentieths of an inch.

5. *C. LINEATUS*.—Wings white; stethidium yellowish testaceous, a fuscous longitudinal line on the anterior dilated line.

Inhabits Pennsylvania.

Thorax pale-greenish, the dilated lines yellowish testaceous, a longitudinal narrow line very distinct and fuscous on the anterior dilated line, and green rather obsolete behind; scutel pale; wings immaculate; feet whitish, incisures of the knees of the intermediate and posterior feet brown; tergum greenish, posterior margins of the incisures dusky. [15]

Length ♀ nearly three-tenths of an inch.

[Wiedemann has changed this into *C. lineola*.—SACKEN.]

C. STIGMATERUS.—Tergum pale, towards the tip glaucous.

Inhabits the United States.

Antennæ pale yellowish-brown; thorax pale cinereous, the lines very pale testaceous, sometimes tinged with dusky; scutel yellowish; metathorax reddish-brown; wings white with a fuscous sub-central stigma; pectus testaceous; feet pale-yellowish; tergum, basal segments pale reddish-brown with whitish tips, terminal segments somewhat glaucous.

Length three-tenths of an inch. ♂.

[This has been changed by Wiedemann into *C. glaucurus*.—SACKEN.]

TANYPUS Meig.

1. *T. ANNULATUS*.—Tergum annulate with dusky; wings clouded with dusky and with three or four blackish points.

Inhabits Pennsylvania.

Head and stethidium red-brown; thorax, the anterior dilated line with a brown line along its middle; feet white, thighs having an annulus near the tip, and tibia with one at base and two near the tip fuscous; wings with large obsolete dusky spots or clouds, and three or four black-brown points, of which two are towards the middle of the wing, and the remainder on the costal margin near the tip; tergum, segments with a dusky annulus at their bases.

Length about three-twentieths of an inch. ♂.

2. *T. TIBIALIS*.—Thorax reddish-brown; tibia white [16] at base; abdomen white, a double band on the middle and tip black.

Inhabits Pennsylvania.

Wings immaculate; poisers white; feet fuscous, basal half of the tibia white; tergum, second joint with a spot each side, two middle segments with each a band, of which the anterior one is much broader, and terminal segments deep fuscous; pleura yellowish.

Length ♂ more than one-twentieth of an inch.

CORETHRA Meig.

C. PUNCTIPENNIS.—Whitish; wings and feet punctured with fuscous.

Inhabits Pennsylvania.

Hair of the antennæ yellowish-white, the centres of the whorls being fuscous, the shaft of the antennæ has a decidedly annulated appearance; eyes black; thorax with three pale yellowish-brown abbreviated broad lines, the middle one originating before and terminating at the centre of the disk, the lateral ones originating rather before the middle; feet with numerous small brown punctures; wings with many very obvious brown spots.

Size of *C. culiciformis* Degeer, Meig.

MYCETOPHILA Meig.

M. ICHNEUMONEA.—Pale yellowish-brown; wings with a fuscous spot; tergum dusky above. [17]

Inhabits Pennsylvania.

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Head tinged with rufous; eyes black; thorax a little hairy, immaculate; feet whitish; tarsi dusky; wings pellucid, nervures pale brown, a fuscous spot on the connecting nervures; abdomen fusiform, somewhat compressed, second, third and fourth segments, particularly the former, reddish-brown above.

Length three-twentieths of an inch.

This belongs to Meigen's first division of the genus.

CAMPYLOMYZA Meig. Wied.

C. SCUTELLATA.—Black, scutel testaceous; feet yellowish; wings hyaline, nervures at the base, pale-yellowish; poisers yellowish.

Inhabits Missouri.

Length nearly one-twentieth of an inch.

ERIOPTERA Meig.

E. CALIPTERA.—Wings fuscous spotted with white: intermediate and posterior thighs biannulate with black.

Inhabits Missouri.

Body pale yellowish; thorax with two fuscous lines above, and one on each side before the wings; wings dark brown, about thirteen spots arranged along the margins, and numerous somewhat smaller ones on the disk, white; nervures hairy; anterior [18] thighs with a blackish line near the tip; intermediate and posterior thighs with an annulus on the middle and another near the tip, blackish; abdomen tinged with brownish, a darker dorsal line and longitudinal incisures.

Length more than three-twentieths of an inch.

[Wiedemann has altered this to *E. caloptera*.—SACKEN.]

CTENOPHORA Meig.

1. C. FULIGINOSA.—Dusky, wings spotted with white; abdomen lineate with yellow.

Inhabits Missouri.

Body dark brown; thorax lineate with yellowish before; wings fuliginous, with about three white spots on the anterior margin, and a transverse oblique one on the disk attaining the thinner margin; feet short, pale testaceous, tips of the thighs and of the tibia and tarsi blackish; tergum fuscous, with two dilated yellow

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lines; venter yellow, obsolete central vitta and posterior margins of the segments, blackish.

Length about seven-tenths of an inch.

2. *C. ABDOMINALIS*.—Abdomen bright fulvous, margined with black; wings spotted with fuscous.

Inhabits Pennsylvania.

Head dull yellowish; rostrum, palpi, and antennæ, dark fuscous: front with a transverse black line at the base of the antennæ, and another each side from the antennæ to the rostrum; occiput dusky; thorax cinereous, a double black longitudinal line abbreviated behind, and three black spots on each [19] side, whereof two are oblong, and the intermediate one subquadrate; collar pale, with three black spots; scutellum dirty yellowish, an oblique black spot on each side of it; pleura gray, with a longitudinal vitta from the head to the abdomen; wings with four fuscous spots on the costal margin, and a minute one beyond the carpus; nervures fuscous, slightly margined, the middle furcate one submargined with white, costal margin between the spots white, posterior margin from the ultimate nervure to the apex with alternate fuscous and white spots; tergum bright fulvous, basal and apical segments, and a wide lateral vitta, black; venter paler fulvous, posterior segments shaded with dusky, and with a longitudinal black line; feet black, a white annulus at base of the tibia; thighs pale with a black annulus at tip.

Length one and a half inches.

This is one of our largest and finest species of Linnæan *Tipula*.

LIMNOBIA Meig.

1. *L. FASCIAPENNIS*.—Wings white, with four fuscous marbled bands; feet pale, blackish at the tips of the thighs.

Inhabits the United States.

Body above rufo-cinereous; eyes deep black; antennæ fuscous, first and second joints black, third and fourth, yellowish; palpi black; wings white, [20] with about four, much dilated, marbled, dark brown bands, of which one is terminal, and one elongated to the base, a small costal spot between the second and third bands; halteres dusky, capitulum white; feet pale rufous, thighs tipped with fuscous; abdomen, segments with an obsolete, 1823.]

brown, cruciate mark on each, of which the transverse line is black.

Length of female, three-fifths of an inch, male rather shorter.

This species occurs not unfrequently on the banks of the Mississippi. The nervures of the wings correspond with those of the wing represented on tab. 6, fig. 4, of Meigen's descriptions of European *Diptera*.

2. *L. MACROCERA*.—Blackish-piceous, polished; wing three-spotted; antennæ longer than the body.

Inhabits East Florida.

Rostrum, first and second joints of the antennæ, and the inferior portion of the front, yellowish; vertex piceous; antennæ hairy on all their length, third and fourth joints with a small vertical spine at tip; halteres and feet yellowish-white; thighs and tibia at tip dusky; wings with three large fuscous spots, of which one is near the base, the second on the middle of the costal margin not attaining to the edge, and the third forms nearly a band across on the connecting nervures: abdomen less intensely colored than the thorax, the three or four middle segments pale-yellowish at base.

Length three-tenths of an inch.

The disposition of the wing nervures differs from [21] any of those represented by Meigen, but they are more like those of fig. 7, pl. 5, than any of the others.

3. *L. TENUIPES*.—Thorax livid; humerus yellowish; wings dusky.

Inhabits Pennsylvania.

Antennæ long, blackish; vertex fuscous; thorax livid; humerus reddish-yellow; nervures arranged as in Meigen's fig. 2, pl. 6; pleuræ and pectus reddish-yellow; feet long and slender, blackish, pale at base; tergum brownish-livid, segments on their posterior margins somewhat darker; abdomen whitish.

Length two-fifths of an inch.

This species may be found in plenty during the autumn at Harrowgate, in humid situations, in company with *T. flavicans* Fabr.

[This species is united with *L. humeralis*, below, by Wiedemann, as one species, under the name *L. humeralis*.—SACKEN.]

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4. *L. CINCTIPES*.—Yellowish; wings varied with dusky; thighs bifasciate beyond the middle.

Inhabits Missouri.

Body pale-yellowish; thorax trilineate with black, intermediate line double, terminating at the central incisure; lateral lines interrupted before, and continued posteriorly to their union at the base of the tergum; wings varied with blackish; four distant spots on the costal margin, of which the terminal one is semi-circular and the penultimate one is continued in a very irregular band towards the thinner margin; thinner margin with about four much diluted spots, the terminal one being continued as a band across the tip; abdomen yellow, somewhat varied with [22] black: thighs with two black annulations beyond the middle.

Length about half an inch.

The nervures of the wings agree with those of Meigen's fig. 5 of tab. 6, excepting that there are three nervures on the costal margin as in his figures 5, 7 and 8 of tab. 5.

5. *L. HUMERALIS*.—Dusky, beneath pale; wings hyaline immaculate.

Inhabits Pennsylvania.

Antennæ fuscous, first joint and rostrum dull-yellowish; front and vertex dull cinereous; thorax dark livid; humerus, two obsolete lines, and lateral margin as far as the wings, yellowish; pleura and pectus pale yellow; scutel and metathorax color of the thorax; nervures dark brown, corresponding in arrangement with Meigen's fig. 2, pl. 6; feet dark brown; tergum dull-yellowish, with a black line; venter white.

Length two-fifths of an inch. ♀.

6. *L. ROSTRATA*.—Feet elongated; wings spotted; rostrum nearly three times as long as the head.

Inhabits Pennsylvania and Maryland.

Antennæ, rostrum and vertex fuscous; thorax cinereous, trilineate with fuscous, the intermediate line abbreviated behind, and the lateral ones abbreviated before; wings with five fuscous sub-equal spots on the costal margin, the penultimate one rather largest, and a spot at each termination of a nervure at the inner [23] margin and apex, the connecting nervures also are margined with fuscous; feet pale.

Length one quarter of an inch. ♀.

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On flowers : this species resembles *L. longirostris* Wied. in the form of the rostrum and the arrangement of the nervures, and with that insect it seems entitled to be separated from *Limnobia* as a distinct genus.

[Belongs to *Aporosa* Macq.—SACKEN.]

TIPULA Linn. Meig.

1. *T. CUNCTANS*.—Wings with a fuscous costal margin : tergum with a dusky line.

Inhabits Pennsylvania.

Rostrum, mouth and base of the antennæ pale reddish-yellow, flagellum dusky ; front and vertex cinereous ; collar pale, with a dusky line ; thorax brown, two pale distant lines on the disk, confluent behind, and another on each side passing over the wings ; wings dusky ; nervures fuscous ; the fuscous costal margin is interrupted near the stigma, by an obsolete, pale spot ; poisers dusky, stipes yellowish ; feet blackish ; thighs and tibia, paler at base ; pleura gray ; abdomen, pale brownish-yellow, with a distinct dusky line on the tergum, the segments of which are also margined behind with dusky.

Length four-fifths of an inch.

Arrangement of the nervures like that of the preceding species.

2. *T. COSTALIS*.—Wings with a fuscous costal margin ; [24] antennæ annulate ; segments of the tergum with an interrupted transverse line.

Inhabits Pennsylvania and Maryland.

Head cinereous ; rostrum and antennæ yellowish, segments of the latter, excepting the three basal ones, fuscous at base ; thorax yellowish brown, with a darker line ; scutel and metathorax pale ; pleura whitish ; feet dull yellowish-brown ; wings with a brown costal margin extending to the extremity of the carpus ; tergum light yellow-brown, segments with a fuscous posterior margin, and two linear spots placed in a line transversely.

Length three-fifths of an inch.

The arrangement of the nervures of the wings is nearly similar to that of Meigen's fig. 9 of pl. 6.

3. *T. MACROCERA*.—Pale-yellowish ; antennæ elongated.

Inhabits Pennsylvania.

Inferior longitudinal half of the rostrum, reddish-brown ; palpi

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dusky; antennæ twice the length of the head and thorax, second joint very small, third joint as long as the fourth and fifth taken together, the remaining joints a little dusky, dilated at their bases, and somewhat excavated in their middles; wings immaculate; nervures, stigma and interstice of the first and second nervures, dull-yellowish; feet pale-brownish; abdomen somewhat darker than the thorax, with three series of black dots, one lateral, and one ventral; pleura and pectus whitish yellow. [25]

Length half an inch.

The antennæ by their length, the second and third joints, and the form of those of the flagellum, show an alliance with the genus *Nephrotoma*, but as they have but thirteen joints, the insect must be regarded as a *Tipula*.

4. *T. COLLARIS*.—Thorax blued-black, lineate with yellow; tergum yellow with blackish bands.

Inhabits Pennsylvania.

Head fulvous; antennæ, first and second joints, rather paler than the head; palpi fuscous, pale at base; occiput black: thorax blued-black, the collar, two lines each side confluent before and behind, scutellum and metathorax, bright yellow, the latter with two confluent blued-black spots at tip; poisers brown, tip of the capitulum yellowish; wings with a brown stigma, nervures brown, differing in arrangement from those of the preceding species and from those figured by Meigen: feet brown, basal portion of the thighs pale; tergum yellow, segments black-brown on their posterior half; venter pale-yellow, segments dusky on their posterior half with a silvery reflection.

Length a little less than half an inch.

5. *T. ANNULATA*.—A dark brown stigma; abdomen pale, annulate with black.

Inhabits Pennsylvania.

Antennæ fuscous, first and second joints whitish; rostrum, and lower portion of the front whitish; vertex and occiput dusky; palpi fuscous; thorax yellowish-brown, [26] the indented lines paler; metathorax light livid; wings with a brown stigma, nervures brown, arranged like those of Meigen's fig. 9, pl. 6; feet dusky-brownish; abdomen yellowish-white, incisures and their margins black, forming annulations complete.

Length two-fifths of an inch.

6. *T. TRIVITTATA*.—Wings four-banded with fuscous; tergum yellow with a dorsal and lateral fuscous vitta.

Inhabits Pennsylvania.

Head dusky; front, rostrum, and base of the antennæ pale; thorax whitish-cinereous, lineate with light brown, the lines double; collar with a brown line, and lateral dusky spot; scutellum and metathorax with a brown line; pleura and pectus gray; poisers whitish, capitulum brown; wings with fuscous margined nervures, fuscous bands and white areolæ, between the first and second band is a semi-band on the thinner margin, second band enclosing a white spot on the costal margin; feet dusky; tergum with a longitudinal fuscous line, segments with lateral fuscous triangles and a dorsal transverse abbreviated dorsal line near the middle of each.

Length one inch.

Nervures resembling those of the preceding species.

SCIOPHILA Hoff.

S. FASCIATA.—Pale-yellowish; thorax trilineate; tergum fasciate with fuscous. [27]

Inhabits Pennsylvania and Maryland.

Antennæ at tip, and vertex fuscous; thorax with a double light-brown middle line attenuated and abbreviated behind, a dark chestnut dilated line on each side abbreviated before, and a small obsolete one above the origin of the wings; pleura with a dusky spot over the insertion of each foot, placed triangularly, the inferior one itself triangular; tibiæ and tarsi a little dusky; segments of the tergum fuscous on their posterior margins.

Length rather more than one-fifth of an inch.

RYPHUS Latr. Meig.

1. *R. MARGINATUS*.—Wings spotted; thorax trilineate with rufous.

Inhabits Pennsylvania.

Head dull reddish-brown; vertex blackish; thorax cinereous, with three rufous lines, of which the middle one is abbreviated behind, and the lateral ones are abbreviated before; wings with

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three brownish spots on the costal margin; feet whitish, joints a little dusky; tergum blackish at tip, pale at base.

Length less than one-fifth of an inch.

The number, form and position of the wing spots, are similar to those of *Sciara punctata*, Fabr., it differs, however, from that insect, in addition to other peculiarities, by the color of the thoracic lineations.

2. *R. ALTERNATUS*.—Costal margin of the wing beyond [28] the middle with three fuscous spots alternating with white ones.

Inhabits Pennsylvania.

Body blackish-fuscous; thorax with three black lines, of which the intermediate one is double; feet short; wings hyaline, connecting nervures slightly margined with fuscous spots on the costal margin, placed one on the middle of the length, then a white one which is very conspicuous on the edge of the wing, then a brown one, then another white one divided into two compartments by a nervure, then a third brown one terminated at the tip of the wing by a third white spot.

♀ Length to the tip of the wings a quarter of an inch.

The habit differs from that of the other species I have seen.

SIMULIUM Latr.

S. VENUSTUM.—Black; thorax, two perlaceous spots before, and a larger one behind; poisers black, capitulum bright yellow, dilated.

Inhabits Shippingsport.

Body black; wings whitish, with yellow, and iridescent reflexions.

Male, eyes very large, separated only by a simple line, dull reddish yellow, inferior half black; thorax velvet-black, a bright oblique, perlaceous, dilated line each side before, and a large perlaceous [29] spot or band behind; sides beneath varied with perlaceous; feet, tibia above, and first joint of the four posterior tarsi, white; abdomen with an oblique perlaceous line at base, and two approximate, lateral, perlaceous ones near the tip.

Female.—Eyes moderate; thorax plumbeous-black, immaculate; scutellum black; abdomen whitish beneath.

This very pretty species, perched in considerable numbers on our boat at Shippingsport, Falls of the Ohio. It ran with con-
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siderable rapidity, constantly advancing its long anterior feet. Its bite is pungent.

BERIS Latr. Meig.

B. FUSCITARSIS.—Thorax piceous-black, polished; tergum reddish-brown, inclining to yellowish on the disk, and with brown incisures.

Inhabits Pennsylvania.

Wing hyaline with a pale-brown stigma and nervures, origin yellowish-white; thorax with the posterior angles piceous; feet, anterior and intermediate pairs yellowish-white; tarsi, excepting the base of the first joint, fuscous, posterior pair reddish-brown, first joint of the tarsi yellowish-white.

Length one-fifth of an inch.

The scutel of my specimen is wanting; I cannot, therefore, ascertain its number of spines.

NEMOLETUS Geoff. Latr. Meig.

N. PALLIPES.—Greenish-black, thorax tinged with green; nervures whitish. [30]

Inhabits Pennsylvania.

Rostelliform process blued-black, polished; antennæ brown, situate at the base of the rostelliform process; front with a triangular white spot above the antennæ; thorax punctured, a testaceous line before the wings, and another each side on the basal edge; poisers and scale pure yellow-white; costal nervures whitish; feet yellowish, base of the thighs and middle of the posterior edges of the segments of the venter rufous.

Length three-twentieths of an inch. ♂.

XYLOPHAGUS Meig.

X. TRIANGULARIS.—Black, sub-glabrous; thorax plumbeous with a black line; feet testaceous.

Inhabits Missouri.

Body black; head pale plumbeous; antennæ and palpi black; proboscis pale rufous; trunk black polished; thorax, disk pale plumbeous, with a longitudinal polished black line, gradually and slightly dilating behind; nervures fuscous; halteres white; feet testaceous, tips of the tarsi and of the posterior thighs and

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tibia dusky; tergum polished, with a large opaque triangle at the base of each segment excepting the first.

Length two-fifths of an inch.

The nervures of the wings are arranged in a similar manner with those of *X. ater* Fab. Meig. [31]

PANGONIA Latr.

P. INCISURALIS. [Ante vol. 1, p. 75.]

TABANUS L. Latr.

T. MOLESTUS.—Thorax cinereous, lineate with fuscous; scutellum cinereous; abdomen black-brown, a dilated dorsal vitta.

Inhabits Missouri.

A frontal, blackish-brown, glabrous, oblong callus, with a dilated obscurely rufous glabrous line above, terminating in a smaller dilatation; antennæ black; proboscis black; palpi testaceous; thorax [32] cinereous, with four reddish-brown lines; wings dusky, nervures dark-brown, blackish towards the tip, a black carpal line, and a slight anastomosis; scutellum cinereous; pectus pubescent, cinereous; feet black, tibia obscure ferruginous; tergum black, a dilated, cinereous, dorsal vitta, consisting of dilated triangular spots on the third, fourth, fifth and sixth segments, the larger ones before; incisures cinereous.

Length less than four-fifths of an inch.

This is one of the species which are called *prairie flies*; it is numerous in the prairies of the State of Missouri, and is very troublesome to the cattle. I have seen cattle in the forests which margin the prairies, when attacked by these insects, start suddenly and plunge into the thickets, that the branches may divest them of their enemies. Travellers are much incommoded by them; many cover their horses with canvas, &c., to shield them from their attacks, or rest in some shaded or secluded situation, during that part of the day when they are most abundant.

2. *T. ANNULATUS.*—Thorax cinereous-plumbeous; wings immaculate; tergum blackish; incisures cinereous; tibia white.

Inhabits Missouri.

Body somewhat pubescent; head beneath cinereous downy; antennæ rufous; palpi white; proboscis black at tip; thorax cinereous-plumbeous, testaceous in the middle, and clothed with
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short prostrate hairs; pectus color of the thorax, downy; feet dusky; tibia white with the exception of the [33] tips; wings slightly dusky, immaculate, nervures brownish, immarginate; abdomen blackish-brown, incisures cinereous.

Length of the body more than two-fifths of an inch.

Smaller than *T. lineola*.

3. *T. stygius*.—Violet-black; thorax pale chestnut.

Inhabits Arkansa.

Hypostoma and front dirty yellowish; antennæ and palpi black, callous of the front quadrate, chestnut, with a simple slightly dilated line above; thorax with five cinereous lines; scutel pale chestnut; wings ferruginous, with three fuscous spots, abdomen immaculate; tibia dull chestnut at base.

Length nearly nine-tenths of an inch.

CHRYSOPS Meig. Latr.

C. quadrivittatus.—Cinereous; tergum with four series of brown lines.

Inhabits near the Rocky Mountains.

Length to the tip of the abdomen nearly two-fifths of an inch.

Body cinereous; head with three black frontal spots placed in a transverse series, the intermediate one smallest, and a larger black spot above the antennæ; antennæ dark reddish-brown, terminal joint black at tip; thorax blackish, with five narrow, cinereous lines; wings with a large costal spot, anastomosis and obsolete spots fuscous; feet yellowish-brown, [34] tips of the tibia and of the tarsal joints black; tergum with four series of fuscous abbreviated lines, the two dorsal series approximate, the lateral ones distant, between the dorsal series tinged with yellowish-brown.

LEPTIS Fab. Meig.

1. *L. ornata*. [Ante vol. 1, p. 26.]

Length ♂ nine-twentieths of an inch.

This species resembles *L. thoracica* Fabr., but the wings are not obscure as those of that species; the thighs as well as the tibia are pale, the bands of the tergum are much broader, the thoracic hair differently colored, and the hypostoma and front are covered with silvery hair.

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2. *L. PUNCTIPENNIS*.—Blackish ; wings spotted ; abdomen pale at base. [35]

Inhabits Pennsylvania.

Hypostoma dark cinereous, with a fringe of long hair each side ; antennæ, palpi and rostrum black ; vertex blackish-fuscous ; stethidium black ; thorax varied with cinereous lines ; pleura, pectus and coxæ dark cinereous ; feet pale brownish, thighs more dusky ; poisers yellowish white ; wings hyaline, tip margin, connecting nervures, margin of the nervures near the thinner edge of the wing, costal margin ending in a carpal spot, fuscous ; tergum, four basal segments pale-yellowish, with a dusky basal margin and triangular spot, remaining segments black.

Length ♂ more than one-fifth of an inch.

3. *L. QUADRATA*.—Pale yellowish ; thorax lineated ; abdomen fasciated ; wings with a large spot.

Inhabits the United States.

Body pale-yellowish ; head very slightly tinged with plumbeous, excepting the antennæ and mouth ; thorax with three dilated longitudinal brown lines, of which the lateral ones are interrupted ; scutel immaculate ; wings whitish, with a brown subquadrate spot, extending from the margin to the centre of the wing, and from near the anterior inner angle of the spot an oblique brown line extends to the thinner margin, nervures brown, white at base ; pectus and feet immaculate ; tergum with a black band at the base of each segment ; halteres with a dusky capitulum.

Length to the tip of the wings more than seven-twentieths of an inch. [36]

This insect is most closely allied to the *Atherix oculata* Fab. It occurs in Pennsylvania as well as in the State of Missouri.

4. *L. BASILARIS*.—Blackish-fuscous ; wings hyaline, base or neck only fuscous.

Inhabits Pennsylvania.

Hypostoma in a particular light cinereous ; antennæ dark testaceous ; thorax and scutel with scattering golden-yellow hairs ; pectus and pleura brown ; feet white, thighs at base and tips of the tarsi brown ; tergum on the posterior margins of the basal segments with yellow hair ; venter immaculate, paler at base ; ♀ head cinereous, vertex and occiput spotted with black. 1823.]

Length ♀ one-fifth of an inch. ♂ rather less.

The nervures of the wings are disposed as in Meigen's second division.

5. *L. RUFITHORAX*.—Yellowish-testaceous; wings dusky; tergum with a series of black spots.

Inhabits Pennsylvania.

Antennæ dull testaceous, terminal joint black; labia fuscous; thorax in a particular light with two dusky obsolete lines; poisers fuscous; wings fuliginous, particularly on the costal edge, the antepenultimate nervure uniting with the preceding one before it attains to the inner edge of the wing; tibia and tarsi dusky, hind feet elongated, tibia and tip of the thighs above blackish, the tarsi paler; tergum [37] with a longitudinal fusiform black line on each segment, those on the two basal segments rounded and central, posterior segments blackish on their basal margins.

Length two-fifths of an inch.

Belongs to Meigen's first division.

6. *L. FUMIPENNIS*.—Wings dusky; tergum brown, annulate with pale testaceous.

Inhabits Pennsylvania.

Hypostoma cinereous; globular prominence, proboscis and antennæ yellowish; thorax fuscous, posterior edge dull testaceous; scutell pale testaceous, fuscous at base; wings, inner and terminal margins hyaline; poisers brown; scapus whitish; feet white; pleura and pectus yellowish-testaceous; tergum fuscous, segments yellowish testaceous on their posterior margins; venter yellowish.

Length rather more than one-fifth of an inch.

Belongs to Meigen's second tribe.

7. *L. FASCIATA*. [Ante, vol. 1, p. 28.]

8. *L. VERTEBATA*. [Ante, vol. 1, p. 27.] [38]

9. *L. ALBICORNIS*. [Ante, vol. 1, p. 27.] [39]

10. *L. PLUMBEA*.—Blackish-plumbeous; wings clouded; poisers pale-yellow.

Inhabits Pennsylvania.

Thorax brown, with five obsolete cinereous lines; wings with a fuscous costal margin, and four dusky arquated bands which do not attain the inner margin, the terminal one is obsolete and

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the basal one very short and also obsolete; feet reddish-brown, tibia pale.

Length a quarter of an inch nearly.

Nervures of the wings as in *albicornis*.

THEREVA Meig.

1. *T. TERGIS*[SA].—Wings spotted; tergum silvery pruinose. Inhabits East Florida.

Body blackish; head blackish-brown, with white hair beneath; antennæ, basal joint cinereous with black hair; palpi pale; proboscis dusky; thorax [40] blackish-brown; wings slightly tinged with brownish, and with several brown spots, and brown stigma; feet pale, dusky at the joints; tergum dull testaceous, darker at base, and with a bright silvery reflection in a certain position, posterior margins of the segments white.

Length more than seven-twentieths of an inch.

The reflected color of the tergum is very similar to that of *Musca anilis* Linn. It seems to be closely allied to *T. pictipennis* Wied., but is larger, destitute of bands on the wings, and the color of the antennæ, feet, &c. is different.

[Changed to *T. corrusca* by Wiedemann.—SACKEN.]

2. *T. NIGRA*.—Black; incisures of the tergum and lateral spot on the fifth segment gray.

Inhabits Pennsylvania.

Head glabrous, polished; hypostoma and all beneath, with gray minute hair; antennæ with minute gray hair, and longer sparse black hair on the basal joint; occiput velvet black; wings pellucid, stigmata and nervures brown, costal edge beyond the stigmata pale, each of the two ultimate pairs of nervures uniting before they attain the edge of the wing; poisers brown; scapus pale; pleura, pectus and coxæ somewhat glaucous; feet blackish, tibia and tarsi excepting at tip pale, anterior tibia at tip and tarsi blackish; tergum polished, posterior edges of the third or fourth basal segments gray, spot each side of the fifth segment oblong-oval oblique.

Length three-tenths of an inch.

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STYGIA Meig.

S. ELONGATA.—Blackish, polished; abdomen elongated, incisures yellowish.

Inhabits Pennsylvania.

Antennæ yellowish-white, the third joint dark fuscous, not longer than the preceding joint, but terminated by an elongated style, the second joint is somewhat more robust than the first, which last is not remarkably dilated at tip, neither is it perceptibly obliquely truncated; occiput plumbeous; thorax piceous-black; humerus with a dull rufous spot, which is continued by a curved line to the origin of the wings; pleura with a silvery line; wings hyaline, nervures brown; poisers yellowish-white; feet including the coxæ white, tarsi dusky; abdomen elongated, depressed; tergum blackish-brown, darker towards the tip, first segment yellowish at base and tip, second segment yellowish on the posterior margin, the two succeeding segments with a spot on each side at tip, terminal segments immaculate; venter with more of the yellowish color than the black.

Length rather more than three-tenths of an inch.

The third nervure of the costal margin is much less distant from the second, than the corresponding nervures of *S. sabæa* Meig., and the first basal cellule is much less elongated, and the superior branch of the apical fork is much less arquated than in that insect.

[Wiedemann removes this species to *Lomatia*, adding at the same time that it probably belongs to some other genus.
—SACKEN.] [42]

ANTHRAX Latr.

1. *A. MORIOIDES*.—Black, with numerous ferruginous hairs; wings deep black with white at tip.

Inhabits the United States.

Body black, covered with short prostrate ferruginous hair on the sides of the stethidium; eyes chestnut-brown, widely emarginate behind; wings deep black, opaque, posterior margin from near the tip to the inner angle hyaline white, black portion occupying nearly two-thirds of the wing, and deeply dentate at tip, an obsolete hyaline spot near the base, about three in the middle

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placed transversely, and one near the tip of the opaque portion; poisers pale; capitulum black beneath, and near the tip above; feet pale, tarsi and anterior thighs dusky: tergum with silvery hairs each side at base, and each side near the tip.

Length three-tenths of an inch.

Very closely allied to *A. morio* Fab. I observed this species in considerable numbers near Merrimac river, Missouri. The terminal joint of the antennæ is rather short, by which character it may be distinguished from *A. fulvohirta* Wied. It is referable to the fifth tribe of the genus *Anthrax*, agreeably to Wiedmann's divisions.

2. *A. LATERALIS*.—Black; wings hyaline; sides with fulvous hair; tergum banded.

Inhabits Pennsylvania and Maryland.

[43]

Hypostoma and occipital orbits with white hair: stethidium with fulvous hair, particularly on the sides of the thorax, on the pleura and collar; wings as far as the basal transverse nervure fuscous, costal nervures fuscous, the included areola yellowish-brown, feet, the hair with a whitish reflexion; tergum with a band of prostrate yellowish hair at the base of each segment, and with long fulvous hair each side as far as the middle of the length.

Length nearly one-fourth of an inch.

It belongs to Wiedemann's fifth tribe.

3. *A. SCRIPTA*.—Wings varied with black and hyaline; tergum with four series of silvery points.

Inhabits Pennsylvania.

Head reddish-brown, obscure covered by yellow ferruginous hair, intermixed with longer black hairs, a black band on the hypostoma, a black spot on each frontal orbit, and vertex black; thorax dusky, or blackish, with three black vittæ, sides before the wings dull cinereous, bounded beneath by another black line, beneath the posterior angles is a fascicle of gray hairs, above which are a few ferruginous hairs; scutell reddish-brown, with short black hair, and a small white spot at the subangulated tip; pleura and pectus reddish-brown; feet reddish-brown, tarsi blackish; wings, costal areola with a small hyaline spot, which is the termination of a band extending in a slightly arcuated direction. 1823.]

rection to the inner angle of the wing, and interrupted by the nervures into five compartments; the three larger [44] cellules of the hinder margin, with the exception of the margins of the nervures, hyaline; a hyaline rounded spot occupying the exterior half of the central cellule, with a smaller spot on each side of it; sometimes obsolete or double; above this central cellule, and near the costal nervures, are two double distant small hyaline spots; tip of the wing hyaline, the two nervures margined with blackish, the margin of the superior one is generally interrupted in the middle; tergum reddish-brown, covered with black hair, first segment with cinereous hair each side of the scutel; second and third segments with each four small white spots on the posterior edge, the lateral ones on the former linear; fourth with but two, the lateral being obsolete; fifth with a transverse line each side, sometimes crossed by a longitudinal line extending on the posterior segments, and exhibiting a cruciform mark, these marks and dots have a silvery brilliancy.

Length seven-tenths of an inch.

This species seems to come nearest to Meigen's second tribe, but it differs by having an additional cellule under the large central cellule of the wing. I labelled it in my cabinet with the Fabrician name of *capucina*, but I cannot identify it with the somewhat detailed description which Meigen quotes from Fabricius, nor yet with Pallas's description of the *caloptera*, that both Meigen and Wiedemann quote, and regard as synonymous with the *capucina*, which they believe to be a native of Europe. [45]

That our insect is totally different from the *caloptera* no one will for a moment doubt, for the latter is no larger than the *morio*, whereas our insect is nearly equal to the *cerberus* in size.

In deference therefore to the opinion of the authorities above referred, I describe this species as distinct, though it seems probable that Fabricius had this species in view when he referred to North America as the native country of the *capucina*.

[This is *A. Simson* Fabr.—SACKEN.]

4. *A. ANALIS*.—Black; wings hyaline at tip; tail silvery.

Inhabits Georgia.

Body deep black; wings brown-black opaque, posterior third hyaline; anterior and intermediate tibia piceous on the upper

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edge; tergum brilliant silvery at tip, and with a white fascicle each side at base.

Length seven-twentieths of an inch.

I am indebted to Mr. August G. Oemler, of Savannah, for this fine species. It belongs to Wiedemann's fifth division.

5. *A. ALTERNATA*.—Body villous, above black, beneath and sides cinereous; tergum fasciate with cinereous.

Inhabits the United States.

Head black; eyes chestnut; front, beneath the antennæ bright cinereous; proboscis concealed in a groove to the tip; palpi distinct, exterior; thorax cinereous, tinged with fulvous each side, and at the scutellar suture; wings dusky, pellucid, nervures [46] blackish-brown; base to the first transverse nervures brown opaque; pectus cinereous; feet blackish; scutel edged with cinereous; abdomen each side with dense long hair, which is cinereous on the first and second segments, but on the remaining segments alternating with black; tergum with six or seven cinereous lineolar bands; venter cinereous; segments, particularly the third, black at base.

Length of body more than eleven-twentieths of an inch.

Found in Pennsylvania, and also in Missouri. It belongs to Wiedemann's fifth tribe.

6. *A. IRRORATUS*.—Black; wings hyaline, with numerous black punctures.

Inhabits the Rocky Mountains.

Body deep black, hairy; eyes reddish-brown, tinged with golden; wings hyaline, with numerous irregular, unequal, dark fuscous spots, of which those near the costal margin are larger than those near the posterior margin and tip, the spots along the costal margin are quadrate and alternate somewhat regularly with their hyaline intervals.

Length one-fourth of an inch.

The nervures of the wings are nearly similar to those of the wing, fig. 22, pl. 17 of Meigen's *Diptera Europea*.—(*Europäischen zweiflügeligen*.)

[This is *A. ædipus* Fabr.; *A. irrorata* Macq., is a different insect.—SACKEN.]

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7. A. CALIPTERA.—Fundamental color brown; wings with three-brown bands, and a silvery spot on the costal base.

Inhabits Arkansa.

[47]

Thorax black-brown, with very short yellowish hair, and longer hair on the anterior edge, a pale fundamental spot on the posterior angle; feet pale reddish-brown; poisers yellowish; scutell reddish-brown; wings brown at base, then a hyaline arquated equal band divided by nervures into five compartments, then a brown band bifid on each margin, and rather narrower in the middle, then an irregular hyaline band very narrow towards the costal margin, abruptly produced in the middle to the tip of the central cellule, then an irregular brown band including a hyaline triangular spot on the inner margin of the wing, and another at the costal margin which almost separates a portion of the band into a distinct triangular spot, lastly an irregular hyaline spot at tip, costal margin, excepting where it is crossed by the first hyaline band, brown; tergum, fundamental color yellowish-brown, with very short black hair, first segment black, second with white hair on the basal half, and a large black spot on the middle, third with a black spot on the middle, and a white hairy spot on the posterior angle, fourth with a black spot.

Length nearly seven-twentieths of an inch.

Belongs to Wiedemann's third tribe.

ASILUS Lin. Meig.

1. A. VERTEBRATUS.—Tergum pale cinereous; segments blackish at base; tibia testaceous.

[48]

Inhabits Missouri.

Head yellow; proboscis and antennæ black; thorax yellowish-cinereous, the dusky line divided by a cinereous one; wings reddish-brown; feet black, with cinereous hair, tibia and tarsi above testaceous; tergum whitish-cinereous, with a large transverse blackish subtriangular spot at the base of each segment, terminal anal segments black; venter immaculate.

Length to the tip of the wings one inch and two-twentieths.

This species belongs to the second tribe in Wiedemann's division of this genus.

[This is probably a *Promachus* Loew.—SACKEN.]

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2. *A. SERICEUS*.—Sericeous, somewhat golden; thorax with a dilated brown vitta; colors of the tergum changeable.

Inhabits Pennsylvania.

Antennæ dull yellowish; thorax, vitta attaining the scutel, and in a particular light changing to bright yellow; wings ferruginous, areolæ of the thinner margin, and of the tip dusky; feet light chestnut, somewhat sericeous; tergum dark-brown, with bright yellow posterior margins to the segments when viewed from behind or above, bright yellow or golden, with brown posterior margins to the segments when viewed from before; venter blackish-brown, in a particular light ferruginous.

Length rather more than one and one-tenth inches.

This beautiful species is referable to Meigen's first tribe. [49]

OMMATUS Wied.

O. TIBIALIS.—Black-brown; abdomen black; tibia white.

Inhabits Pennsylvania.

Front and hypostoma golden-yellowish; vibrissæ gray, near the antennæ black; occiput silvery, nearly glabrous; thorax dark-brown, approaching black, with an obsolete narrow brown line on the middle; scutel, metathorax, pleuræ, pectus, and coxæ silvery; wings pellucid, with black nervures; thighs dark chestnut; tibia white, intermediate and posterior ones near the tip, and tarsi brown.

Length eleven-twentieths of an inch.

DIOCTRIA Meig.

1. *D. 8-PUNCTATA*.—Subglabrous, black; abdomen with four white spots on each side.

Inhabits the United States.

Body black, nearly glabrous, polished; front yellowish; thorax with three yellow lines, of which the exterior ones are dilated before, and include a dusky spot; feet testaceous, tibia and tarsal joints tipped with blackish; tergum punctured, and with a white spot at the lateral tip of the second, third, fourth and fifth segments.

Length three-tenths of an inch.

This species is an inhabitant both of the western and eastern States. The first joint of the antennæ is [50] considerably longer than the second, though not double its length, and the terminal joint is elongated, subcylindrico-compressed, obtuse at tip, with a 1823.]

short spine on the superior surface rather beyond the middle, and a small oblong-ovate denuded space on the inner surface. The wing nervures are arranged as in *Dioctria* and *Dasygogon*.

Genus DASYPOGON Meig.

1. D. 6-FASCIATUS.—Cinereous; abdomen black, with a white band on each segment.

Inhabits Missouri.

Body black, densely covered with short cinereous hair; head with longer silvery hair; antennæ black; nervures fuscous; tergum black, polished, each segment with a white band at tip, a little dilated in the middle, and occupying about one-third of its proper segment; thighs and tibia testaceous at base; halteres pale.

Length seven-twentieths of an inch.

[The genus *Dasygogon* formed of the most heterogeneous elements, has been subdivided by Prof. Loew, into seventeen groups or subgenera, comprising the European species only. The American species for the most part belong to new groups, as yet undefined. Those of Say's species which I know to belong to one of Loew's groups, I refer to them, leaving the others in the genus *Dasygogon* in Meigen's acceptance.—SACKEN.]

2. D. ABDOMINALIS.—Yellow; thorax cinereous; wings dusky.

Inhabits Pennsylvania.

Body cinereous; head with an impressed line between the antennæ; antennæ and rostrum black; thorax with an abbreviated, brown line before and a lateral interrupted one; wings dark brown immaculate; abdomen bright-yellow, very slightly tinged with rufous, immaculate; feet pale rufous, tibia [51] dusky at tip, tip of the posterior ones dilated, and first joint of the posterior tarsi also dilated and as long as the three following segments united.

Length less than three-tenths of an inch.

The head is very wide, the eyes being proportionally very large, the vertex deeply concave, and the stemmata placed on a common elevation.

[This is a *Discocephala* Macq. Synonymous with *D. rufiventris* Macq.—SACKEN.]

3. D. TRIFASCIATUS.—Cinereous; tergum black, trifasciate with whitish.

Inhabits Pennsylvania and Maryland.

Antennæ black, first joint of the style longer than the second; wings dusky, hyaline, nervures as in Meigen's fig. 10, pl. 20, excepting that the central cellule is rather more elongated; tergum velvet-black, a cinereous band at base, a linear one near the middle, and a dilated silvery one on the middle, tip of the tergum cinereous; venter somewhat livid, immaculate.

Length ♂ two-fifths of an inch; ♀ half an inch.

Found sometimes in sandy districts. The ground-color of the body is black, but this color is concealed by a pruinose covering.

[This and the next species belong to *Stichopogon* Loew.—SACKEN.]

4. *D. ARGENTUS*.—Cinereous, immaculate; poisers paler yellowish.

Inhabits Pennsylvania and Maryland.

Antennæ black, second joint as long, or slightly longer than the first; first joint of the style longer than the second, which is acicular and minute; mystax and hair of the genæ, pure white; vibrissæ [52] none; wings hyaline, nervures light brown, arranged as in Meigen's fig. 11, pl. 20.

Length from three-tenths to seven twentieths of an inch.

Like the preceding insect, the ground color is black, but this color is concealed by a universal pruinose covering, which has almost a silvery brightness when the animal is living and under the influence of the sun's rays.

5. *D. POLITUS*.—Tergum blackish-blue; posterior half of the wings fuscous.

Inhabits Pennsylvania and Maryland.

Hypostoma and front golden-brown, mystax and vibrissæ yellowish-brown; vertex brown; genæ pure white; antennæ black, first joint of the style longer than the second, which is acicular and minute; thorax golden-brown, a double black line abbreviated behind, and a lateral broad dusky line approaching behind near to the scutel; feet rufous, thighs black; wings, basal half hyaline, a hyaline spot on the carpus, and a smaller obsolete one near the apex; nervures arranged nearly as in Meigen's fig. 11, pl. 20; tergum fine blackish-blue, the segments with lateral marginal cinereous triangles.

Length nine-twentieths of an inch.

6. *D. CRUCIATUS*.—Thorax margined and spotted with yellow, abdomen black, annulate with yellow.

Inhabits Arkansa.

Hypostoma yellow; stethidium black; thorax broadly margined with yellow, a humeral triangular [53] spot and a spot each side of the middle connected by a line with the margin, yellow; wings ferruginous, nervures like those of the preceding species; feet ferruginous; pleura spotted with yellow; abdomen black, segments with a broad yellow posterior margin.

Length nine-tenths of an inch.

A large and fine species, very readily distinguished from others.

Genus *LAPHRIA* Fab. Latr.

1. *L. FULVICAUDA*. [Ante, 1, 12.]

2. *L. GLABRATA*.—Black, polished; posterior edges of the segments of the tergum white. [54]

Inhabits the United States.

Body with very short prostrate, indistinct hair, punctured; hypostoma silvery; tubercle of the vertex brown; occiput plumbeous; collar and line upon the thorax each side before the wings cinereous; pleura and pectus with a cinereous reflexion; wings immaculate, nervures brown, nearly resembling in their arrangement Meigen's fig. 20, pl. 20; poisers whitish; feet reddish-brown, the middle of the thighs, tips of the tibia and tarsi darker, posterior feet beneath densely hairy; the basal and terminal segments destitute of the white edge.

Length one-fourth of an inch.

Var. a. Feet pale.

I have a specimen in which the external branch of the terminal furcate nervure is continued a short distance beyond its connexion, as in Meigen's fig. 23. The antennæ of this species are like those of *Dioctria 8-punctata*, excepting that they are acute at tip, and the arrangement of the nervures, decides the generic affinity of this insect.

[Belongs to *Atomosia* Macq.—SACKEN.]

[Continuation, from Vol. 3, pp. 73—104.]

3. *LAPHRIA MACROCERA*.—First joint of the antennæ elongated; body black.

Inhabits Pennsylvania.

Body somewhat polished, with short, prostrate, grayish hair, punctured; antennæ, first joint more than four times as long as the second; wings a little dusky, nervures nearly as in the preceding species: poisers pale-yellowish; feet black, tibia and base of the tarsi pale testaceous; tergum on each side and at tip margined with testaceous.

Length one-quarter of an inch.

This insect closely resembles the preceding species, [74] but the elongated first joint of the antennæ, the want of white posterior edges to the abdominal segments, together with the color of the lateral margin and tip of the abdomen, prove it distinct. I had formerly placed both this insect and the preceding under the genus *Dioctria*, but the disposition of their wing nervures is precisely as in *L. ephippium*.

4. *L. SERICEA*. [Ante 1, 12.]

5. *L. TERGISSA*.—Thorax and three middle segments of the tergum with yellowish hair. [75]

Inhabits Pennsylvania.

Head black, vibrissæ and long hair of the cheek pale yellowish; thorax dark blue, slightly tinged by cupreous, and covered by pale yellowish hair, which, on the anterior part, and on the lateral edge is tinged with ferruginous; pleura blackish-piceous, with two fascicles of ferruginous hair; wing nervures brown, margined; scutel blackish, ciliated with dusky hair; feet blued-black, two anterior pairs of tibia with yellowish hair, posterior thighs clavate, anterior pair of coxæ concealed by yellowish hair; tergum blackish, the three intermediate segments with dense pale yellowish hair, which is interrupted in the middle, and does not occupy the basal edge.

Length one inch and one-tenth.

This is a large robust species, and the nervures of its wings are arranged like those of *L. ephippium* Fab.

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LEPTOGASTER Meig.

L. ANNULATUS.—Feet whitish, annulate with rufous.

Inhabits Pennsylvania.

Antennæ and trophi whitish ; thorax pale cinereous, with three dilated pale brown lines ; wings hyaline, immaculate ; anterior and intermediate feet white, extremities of the joints tinged with rufous or yellow, posterior feet more robust and elongated, joints yellow, white at base, thighs clavate, bifasciate with rufous near the tip, tibia trifasciate with [76] rufous ; abdomen cylindric, elongated, dilated at tip, segments yellow-brown, dark reddish-brown at base and on the terminal submargin, terminal margins white.

Length two-fifths of an inch nearly.

The nervures of the wings of this insect, do not perfectly correspond with those of *L. tipuloides*, which circumstance, combined with another highly important difference that this insect exhibits, in having but two nails to the tarsi, would justify the generic separation of the *annulatus* from the *tipuloides*, and its reference to a distinct genus.

It is not a *Phthiria* of Wiedemann ?

[Name changed to *L. histrio*, by Wiedemann.—SACKEN.]

HYBOS Meig.

H. THORACICUS.—Thorax ferruginous, trilineate ; abdomen piceous.

Inhabits Pennsylvania.

Antennæ and rostrum yellow, pale ; thorax ferruginous, with three dilated black lines : wings obscure, a dark red-brown stigma ; feet reddish-brown, the posterior pair darker than the others, tarsi yellowish ; abdomen dull-piceous.

Length rather more than one-fifth of an inch.

BIBIO Latr. Meig.

1. *B. PALLIPES*.—Black ; tergum with a yellowish-piceous lateral margin.

Inhabits Pennsylvania.

Body hairy ; wings hyaline, a large fuscous stigma, [77] interstice of the first and second nervures yellowish ; feet whitish.

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yellow, spines of the anterior tibia equal ; posterior tibia somewhat dilated.

Length one-quarter of an inch. ♂.

2. *B. HETEROPTERUS*.—Black ; wings with a fuscous anterior margin and nervures.

Inhabits Maryland.

Body immaculate with dusky hair, feet rather long, posterior tibia at tip, and first and second joints of the tarsi dilated ; wings brown, the costal margin fuscous, nervures differing somewhat in their arrangements, and the inferior branch of the lower furcate nervure curves backwards at the inner margin so as almost to meet the succeeding nervure at the edge of the wing.

Length more than three-tenths of an inch. ♂.

3. *B. ALBIPENNIS*.—Black ; wings white, with a fuscous stigma.

Inhabits Pennsylvania.

Body with cinereous hair ; head above with black hair ; halteres fuscous, scapus brown ; nervures brown ; tarsi black-brown, exterior spine of the anterior tibia much larger than the interior one.

Length three-tenths of an inch.

This is a very common insect. The wings have a white appearance, and are strongly contrasted with the color of the body, and the brown and definite stigma. The posterior tibia of the male are much more dilated towards the tip than those of the female.

4. *B. ARTICULATUS*.—Black, thorax and feet rufous.

Inhabits Pennsylvania.

[78]

Wings brownish, more particularly at the costal margin, and with a very distinct stigma ; poisers pale, dusky at tip ; feet pale rufous, joints and anterior tibia reddish-brown, tarsi dusky at tip, spines of the anterior tibia subequal.

Length ♀ rather more than one-quarter of an inch.

5. *B. ORBATUS*.—Black, immaculate ; wings fuscous, the central connecting nervure wanting.

Inhabits Pennsylvania.

Feet and coxæ piceous ; humeral tubercle piceous ; wings dusky, the costal margin particularly ; the transverse nervure of 1823.]

the disk, that in other species connects the inner branches of the two bifurcated nervures together, is entirely wanting.

Length one-fifth of an inch.

[Wiedemann who had specimens communicated by Say before him, describes this species as *Dilophus orbatus* Say. I collected a *Dilophus* in Florida which agrees very well with both descriptions. The absence of the central cross nervure is not a constant character; although it is not seen in many specimens, some show the cross nervure distinctly, others have it very faint, and others again show a beginning of it. This cross nervure, when apparent, is situated about half way between the upper cross nervure and the fork. Wiedemann describes the female; the sex is not mentioned by Say, but he evidently refers to the same sex. As I have several males in my possession, and they differ considerably from the female, I take occasion to give the description.

D. ORBATUS. ♂—Black, shining: feet black, with black hairs. Wings pale yellowish, tinged with pale brownish along the anterior border; stigma fuscous; nervures near the anterior border brown; the others very pale; central cross nervure sometimes wanting, sometimes distinct, and then situated as in the female.

The color of the hairs on the feet, and the position of the cross nervure distinguish the male of this species from the male of another American *Dilophus*, (*D. serraticollis* Walker?), which is, besides, a little smaller. The females of the two species are entirely different, and cannot be easily mistaken.—SACKEN.]

SCIARA Meig. Wied.

S. FEMORATA.—Black; thighs pale.

Inhabits Pennsylvania.

Wings hyaline, nervures fuscous; poisers large; coxæ and thighs pale, or yellowish-white; abdomen dirty yellowish obscure, lateral margin and posterior margins of the segments blackish.

Length less than one-tenth of an inch.

DILOPHUS Meig. Wied.

1. D. STIGMATERUS.—Black; stethidium and thighs rufous; two series of spines on the thorax, wings whitish with a dusky costal spot.

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Inhabits Missouri.

Body deep black; head elongated; antennæ black, basal joint pale; eyes oblong-oval; thorax pale rufous, a transverse, uninterrupted series of approximate acute spines on the collar, and a series of rather smaller ones over the insertion of the anterior feet; wings whitish with a distinct black spot on the middle of the costal margin; feet black, trochanters and middle of the thighs pale rufous; anterior tibia with a series of prominent acute spines, on the anterior middle and tip, spines piceous at tip.

Length one-quarter of an inch nearly.

Taken at Engineer Cantonment.

2. *D. SPINIPES*.—Black; stethidium and thighs rufous; two series of spines on the thorax of which the anterior one is interrupted in the middle; wings fuscous.

Inhabits Missouri.

Body black; head elongated; thorax pale rufous, a transverse series of approximate spines on the collar interrupted in the middle, and a series of smaller ones over the insertion of the anterior feet; wings blackish, costal margin darker; feet black, thighs and basal joints of the anterior pairs pale rufous; anterior tibia with a series of acute prominent spines near the base, middle and at tip.

Length from the eyes to tip of the wings three-tenths of an inch.

Found near Fort Osage.

Differs from the preceding species in being much larger, in having the anterior series of thoracic spines [80] interrupted in the middle, and in having a triple series of spines on the anterior tibia.

3. *D. THORACICUS*.—Black; stethidium, and two anterior pairs of thighs pale rufous; anterior series of thoracic spines uninterrupted.

Inhabits Pennsylvania and Maryland.

Thoracic spines, scutel and metathorax black; pleura and pectus, excepting the incisures, black; wings fuscous, stigma darker; poisers black; anterior coxæ and thighs, excepting the basal and apical incisures, pale rufous; intermediate thighs, ex-
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cepting the base and tip, also very pale rufous; anterior tibia spinous before, and beyond the middle and at tip.

Length to the tip of the wings nearly one-quarter of an inch.

Distinguishable from *spinipes* by its inferiority in size, and from *stigmaterus* by its dark colored wings, &c.

MYOPA Fab. Latr.

1. *M. VESICULOSA*.—Head beneath vesicular and white; wings whitish at base.

Inhabits Pennsylvania.

Body rather robust; rostrum dark reddish-brown; hypostoma and cheeks vesicular, white, slightly tinged with yellow; front and occiput yellowish-brown, the former with two dilated dark lines; antennæ reddish-brown, third joint yellowish-white; thorax reddish-brown, obscure, varied with blackish, beneath the scutel deep black; poisers pale yellow; [81] wings a little dusky, slightly darker on the middle of the costal margin, base whitish; pleura and pectus reddish-brown; feet dark reddish-brown, knees, base of the tibia and tarsi, excepting the points of the articulations, yellowish-white; tergum blackish-brown, paler on the margin; ♂ ♀.

Length nearly three-tenths of an inch.

2. *M. LONGICORNIS*.—Body black, hairy; wings dusky, pale at base: antennæ as long as the head.

Inhabits Missouri.

Antennæ pale on the inner side and beneath; hypostoma pale with a silvery reflexion; front and vertex dusky; proboscis black; thorax with two obsolete pale lines; wings blackish, pale towards the base; poisers whitish; anterior pairs of feet with the thigh beneath, at base and leg, pale; anterior pair of trochanters pale, with a silvery reflexion; posterior feet, thighs pale on the basal moiety; abdomen clavate and hamate at tip.

Length about three-tenths of an inch.

3. *M. BIANNULATA*.—Thorax dark-brown; tergum pale testaceous, annulate with dusky; hind thighs biannulate with brown.

Inhabits Pennsylvania.

Hypostoma pure silvery; front yellowish rufous; vertex blackish-brown, obscure in the middle; antennæ white at base, third

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joint yellowish-rufous, the extreme point dusky, style situate near the tip, porrect, black; rostrum nearly as long as the body, blackish, at base white; thorax margined with white; pleura, pectus, and anterior pairs of feet [82] white; poisers fuscous; posterior thighs tinged with rufous on the middle, and with a brown annulus each side of the middle, posterior tibia at tip, together with their tarsi, fuscous; tergum reddish-yellow, posterior margins of the segments brown; venter narrow, white; ♀ oviduct fuscous on its posterior half.

Length nearly ♂ three-tenths, ♀ more than seven-twentieths of an inch.

The habitus of this insect is entirely different from others of the genus. The body is slender, and not incurved, the rostrum much elongated, and the oviduct of the female resembles an attenuated continuation of the abdomen.

[According to Wiedemann, who compared typical specimens, this is *M. stylata* Fabr.—SACKEN.]

CONOPS Fabr. Latr.

1. *C. MARGINATA*.—Black, slightly hairy; an interrupted line upon the thorax before, and abdominal sutures yellow; costal moiety of the wings fuscous.

Inhabits Missouri.

Body black, with fine hairs; head yellowish-white; vertex black, a longitudinal line bifarious at the antennæ, and transverse above; hypostoma with an impressed black sagittate spot, near the inferior tip of which, on each side, is a small black triangular spot; eyes chestnut; proboscis black; antennæ black, basal and terminal joints pale beneath; vertex black, hardly elevated above the eyes; thorax, a yellow, anterior, transverse line interrupted in the middle; scutel ferruginous; wings, costal moiety black; halteres [83] whitish; feet pale reddish-brown: abdomen clavate, incurved at tip, segments, excepting the ultimate one, margined at tip with yellow; central connecting nerve of the wing minute.

Length more than two-fifths of an inch.

2. *C. SAGITTARIA*.—Black, slightly hairy; humeral tubercle ferruginous; nearly two-thirds of the wing fuscous.

Inhabits Pennsylvania.

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Body with short hairs; head yellowish white; vertex in one sex black, in the other dirty whitish; front with a longitudinal black line bifarious at the base of the antennæ, and a transverse one above; hypostoma with an impressed sagittate spot, on each side, near the base of which is a black spot; proboscis testaceous, blackish at tip; antennæ dusky above, beneath terminal joint rufous; scutellum dirty rufous; feet rufous; abdomen, segments obsolete edged with yellowish, that of the petiole with dull cinereous; central connecting nervure of the wings very obvious.

Length eleven-twentieths of an inch.

This is a larger species than the preceding, with a much more considerable portion of the wings obscured, no interrupted thoracic fascia, and a much longer connecting nervure on the centre of the wing.

[Name changed by Wiedemann to *C. nigricornis*.—SACKEN.]

ZODION Latr.

Z. FULVIFRONS.—Cinereous, front fulvous; thorax with two distant brown lines. [84]

Inhabits Maryland and Pennsylvania.

Head beneath, mouth, hypostoma and orbital line, pure white; proboscis black; antennæ fulvous, first joint ferruginous, second with a dusky line on the superior edge; occiput blackish; poisers pale yellowish, style rufous, feet dull rufous, tibia white on the exterior edge; tergum with two irregular blackish lines, terminal segments testaceous.

Length more than three-tenths of an inch.

On flowers.

2. Z. ABDOMINALIS.—Testaceous; thorax dusky; proboscis black.

Inhabits near the Rocky Mountains.

Body with numerous short hairs; head silvery; vertex testaceous; antennæ pale rufous; eyes and stemmata reddish-brown; proboscis black; thorax dusky cinereous, with two dorsal abbreviated fuscous lines, and an obsolete intermediate one; wings hyaline, immaculate, nervures at base testaceous, towards the tip fuscous; abdomen and feet testaceous.

Length to the tip of the abdomen rather more than one-fourth of an inch.

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I obtained an individual at Engineer Cantonment, less than half the above mentioned size.

DOLICHOPUS Fab.

D. SIPHO.—Green; wings bifasciate; feet whitish.

Inhabits the United States.

Body green brilliant; hypostoma pruinose; front blue; antennæ and palpi black; proboscis yellowish; thorax tinged with blue; scutel blue; wings with two brown or fuliginous, somewhat oblique bands beyond the middle, which do not attain the thinner margin, and are connected on the costal margin by a dilated line of the same color, forming a siphon-like mark; pectus on each side with a somewhat silvery reflection; feet whitish; tarsi dusky.

Length one-fourth of an inch.

Not uncommon; the terminal segments of the tergum of the male are tinged with golden, but the ultimate segments in each sex is blue. Central nervure furcate, the exterior branch widely angulated and terminating near the tip of the preceding nervure.

[Belongs to *Psilopus* Meig.—SACKEN.]

2. D. UNIFASCIATUS.—Bluish-green; a white band at the base of the abdomen.

Inhabits Pennsylvania.

Body bluish-green, polished, slender: antennæ, palpi and proboscis whitish; scutel blue; wings immaculate; feet whitish; tergum, first segment and half of the second whitish, posterior half of the second segment and third segment much tinged with blue, remaining segments green.

Length one-fourth of an inch.

Central nervure of the wing furcate, the exterior branch widely angulated and terminating near the tip of the preceding nervure, which is curved very considerably inwards, towards its tip.

[Also a *Psilopus*; the name is changed to *P. Sayi* by Wiedemann.—SACKEN.]

4. D. OBSCURUS.—Blackish-brassy; wings dusky; feet pale.

Inhabits Pennsylvania.

[86]

Head dark-silvery; antennæ black-brown; mouth blackish; thorax and scutel dark-brassy; wings dusky; feet white, a little 1823.]

dusky on the tarsi ; poisers white ; tergum rather darker than the thorax.

Length less than three-twentieths of an inch.

The central nervure of the wing is nearly rectilinear, being hardly perceptibly reflected.

5. *D. FEMORATUS*.—Green ; tibia and tarsi whitish.

Inhabits Pennsylvania.

Body brilliant green, with bluish reflexions ; front pruinose ; antennæ blackish ; proboscis yellowish ; wings hyaline ; scutell blue ; thighs green, and excepting the posterior ones, whitish at tip, tibia white, tarsi dusky ; tergum, ultimate joints cupreous at their bases.

Length three-twentieths of an inch.

The brilliancy and shade of green in this insect are similar to *D. sipho* ; when living, and in the sun's rays, it resembles burnished gold, nervures nearly as in *sipho*.

[Belongs to *Psilopus*.—SACKEN.]

6. *D. CUPREUS*.—Green, varied with cupreous ; feet whitish, tipped with dusky.

Inhabits Maryland.

Front pale, with minute silvery hairs ; vertex purple-blue ; antennæ pale, yellowish, black on the upper edge and at tip ; palpi and proboscis pale-yellowish ; thorax cupreous ; scutell greenish-brassy ; feet whitish, dusky at tip ; tergum green, varied with cupreous, posterior margins of the segments cupreous.

Length one-fourth of an inch.

[87]

This species is more robust than the preceding ones. I obtained several specimens on the eastern shores of Maryland and Virginia. Central nervure abbreviated, but angularly connected near its tip to its parallel branch, by a short nervure, which inclines a little towards the base of the wing.

[Name changed by Wiedemann to *D. cuprinus*, as there was previously a European *D. cupreus* Fall.—SACKEN.]

7. *D. PATIBULATUS*.—Green ; wings bifasciate ; feet black.

Inhabits E. Florida.

Body green, brilliant ; hypostoma pruinose ; antennæ and palpi black ; proboscis piceous-black ; wings with two brown or fuliginous bands beyond the middle, perpendicular to the costal edge, not attaining to the inner margin, and connected on the

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costal margin by a dilated line of the same color; feet black; thighs and coxæ blackish-blue.

Length rather more than three-twentieths of an inch. ♂.

This species closely resembles *D. sipho*, but it is much smaller, the bands of the wings without any obliquity, and the feet entirely colored.

[Belongs to *Psilopus*.—SACKEN.]

SARGUS Latr. Meig.

S. VIRIDIS.—Body green, polished; wings dusky; eyes above brassy.

Inhabits the United States.

Body green, polished, varied with brassy, and in a certain light purplish, and covered by very short hair; eyes very large, brown, when recent deep green, polished beneath, above tinged with brassy, sub-opaque, [88] and separated from the green of the inferior portion, by a red line; antennæ black; labia pale; tibia blackish.

Length seven-twentieths of an inch.

Var. a. Bluish-purple.

Var. b. Bluish-purple; abdomen green.

A very pretty species; I found it near Cincinnati, perched upon a leaf; it is also an inhabitant of the Atlantic States. It has a bright-green appearance, although covered with very short hairs, but these are hardly discernible to the unassisted eye. It is closely allied to *S. xanthopterus* Fab., but the joints of its feet are not yellowish, as those of that species are.

SCÆVA Fabr. Latr.*

1. *S. POLITA*.—Thorax with a yellow line each side, and a cinereous dorsal one; tergum with band and quadrate spots yellow.

Inhabits the United States.

Head yellow, above the antennæ dusky silvery; thorax somewhat olivaceous, a yellow line above the wings, and a dorsal cinereous one: scutellum dusky yellowish, with a paler margin; feet whitish; tergum black, basal segment with a basal lateral edge; 1823.]

*The name now adopted for this genus is *Syrphus* Linn.—SACKEN.

second segment with a transverse yellow band on the middle; third and fourth segments with a band and longitudinal line, each side of which latter is a large transverse subtriangular spot, yellow; fifth segment with the yellow spots and base, but destitute of the longitudinal line.

Length about three-tenths of an inch. [89]

2. *S. OBLIQUA*.—Thorax greenish bronze, with a yellow dot before the wings; tergum banded and spotted with yellow.

Inhabits the United States.

Head yellow, a dusky line above the antennæ; orbits yellow to the vertex; antennæ blackish on the superior edge; thorax dark green-bronze, a large yellow spot before the wings; scutel bright-yellow; feet whitish, anterior tibia and tarsi a little dilated, the latter with short joints, posterior thighs with one obsolete band and tibia two banded, extremity of all the tarsi dusky; tergum black, first segment with a yellow basal edge; second segment with a band at the base, interrupted into two oblong triangles, a broader one on its middle, yellow; third segment with one band which is sometimes double; fourth and fifth segments each with an oblique oblong oval spot each side, and two longitudinal lines on the middle, yellow.

Length about three-tenths of an inch.

Resembles the preceding, but there is no line upon the thorax, and the markings of the tergum are different.

3 *S. CONCAVA*.—Thorax bluish-green, tergum with four yellow bands.

Inhabits Pennsylvania.

Head whitish, sericeous; antennæ pale testaceous; margin of the mouth dusky; thorax bluish-green, with pale cinereous hairs; scutel dusky, somewhat livid; feet whitish, dull rufous at base; pectus dark glaucous, tergum black, quadrifasciate with yellow; [90] first band interrupted, triangular each side, the others concave behind, terminal one narrow.

Length more than seven-twentieths of an inch.

Very much resembles *S. ribesii* of authors, but the second and third bands of the tergum are widely concave behind, instead of being almost acutely notched, as in the common European species. I obtained several pupæ of this insect, adhering by the

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inferior part of the abdomen to the rails of a fence. This included insect was evolved on the 22d of April.

4. *S. QUADRATA*.—Thorax bluish-bronzed; abdomen with eight very large quadrate yellowish spots.

Inhabits the United States.

Head bluish-bronze, with short cinereous hair; frontal elevation dusky; antennæ dark reddish-brown; thorax and scutel bluish-bronze, polished, immaculate; feet testaceous; anterior tibia and tarsi of the male dilated, the joints of the latter much shortened; first and last joints of the posterior tarsi blackish; tergum with eight very large, quadrate, fulvous spots, occupying nearly all the surface, leaving only a dorsal line and incisions black, the two spots of the penultimate segments are hardly separated, sometimes united into a continuous band, and the ultimate or anal segment is immaculate, somewhat livid; venter yellow, whitish at base.

Length one-third of an inch nearly.

This insect is very nearly related both in form and colors to *S. mellina* Fab., but the spots of the tergum occupy a far greater portion of that part. [91]

5. *S. EMARGINATA*.—Thorax dark green, with a yellow margin; tergum banded with yellow.

Inhabits East Florida.

Front yellow; antennæ on the superior margin fuscous; a double blackish spot above the base of the antennæ; thorax dark-green, a yellow line each side; scutel yellow; feet yellow, posterior thighs and tibia dusky in the middle; tergum black; first segment yellow on the exterior edge; second segment with a transversely oblong-oval spot on each side, attaining the exterior edge; third segment with the edge of the basal angles, emarginate band on the middle, not attaining the lateral edge, and posterior edge yellow; fourth segment with the edge of the lateral angles (which joins the tip of the preceding segment to form a narrow band,) band on the middle not attaining the lateral edges, and most profoundly emarginate behind, and posterior edge yellow; fifth segment with a triangular basal spot each side, and tip, yellow.

Length to the tip of the wings half an inch.

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It requires some examination to perceive the difference between this insect and the *S. corollæ* of Fabr., but on inspecting the third and fourth segments of the tergum, it will be observed, that there are at least two more bands on our species; these bands are narrow and are formed by the confluence of the yellow and posterior edges of those segments with the yellow basal angles of the succeeding segments.

It is highly probable that the band on the middle [92] of the fourth segment, and perhaps also that on the third are sometimes entirely separated by their posterior emargination, each into two oval spots.

6. *S. MARGINATA*.—Thorax blackish, with a yellow margin; tergum spotted, banded and edged with yellow.

Inhabits the United States.

Head yellow, a blackish line above the antennæ; thorax blackish, tinged with olivaceous or glaucous, a lateral yellow line continued to the scutel and an obsolete dorsal cinereous one; scutel yellow; feet pale, posterior tarsi a little dusky at tip; tergum blackish, edged with yellow; first segment with a yellow basal edge; second segment with a yellow band on the middle; third and fourth segments each with a dorsal line and somewhat oblique spot each side confluent with the base yellow, sometimes tinged with rufous; fifth segment with two oblique yellow spots confluent at tip.

Length rather more than one-fifth of an inch.

This insect is smaller than the preceding ones, and may be readily distinguished from them by the yellow abdominal edge, as well as by the different arrangement of its spots. It is subject to vary in the character of its tergum, in having the spots sometimes almost confluent with each other, or in being colored with rufous.

7. *S. GEMINATA*.—Thorax with a yellow margin; tergum spotted and banded with yellow.

Inhabits the United States.

Head yellow silvery, at its junction with the thorax [93] glaucous; antennæ yellow; thorax bronze-blackish, a yellow line each side, and an obsolete cinereous dorsal one; scutel color of the thorax, with a yellow margin: feet pale, posterior pair with

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the thighs and tibia arquated, the former blackish at tip, the latter sub-bifasciate with brown; tergum black; first segments yellow on the basal edge; second segment with a yellow band on the middle; third and fourth segments with each a central longitudinal line, and two triangular spots on each side; fifth segment four spotted.

Length about one-fifth of an inch.

About equal in size to *S. marginata* S., from which it may be known by its double lateral spots of the tergum, as well as by the absence of a yellow edging upon this part of the body.

[Macquart has placed this as a new genus *Toxomerus*, describing it also as a new species, *T. notatus* Macq., Dipt. Exot. 5th Supple. 93; tab. 5, fig. 4.—SACKEN.]

9. *S. AFFINIS*.—Thorax blued-black; tergum black with three yellow lunules on each side.

Inhabits Arkansa.

Head whitish, between the superior angles of the eyes black; antennæ fuscous; frontal elevation, superior oral angle, and proboscis black; thorax and pectus blued-black, with long dense whitish hair each side; nervures testaceous; scutel pale testaceous; feet whitish, dusky at base; tergum black, with three lunules on each side, and the two terminal segments edged with yellow; venter yellowish, exterior edge and disks of the segments black.

Length to the tip of the wings three-fifths of an inch.

Size of *S. transfuga* Fabr., which it very closely [94] resembles, and is to be distinguished by the somewhat darker coloring. Is it not a variety of that species?

RHINGIA Fab.

R. NASICA. ♂.—Tergum yellow, incisures and dorsal line black.

Inhabits the United States.

Front yellow, beneath the mouth dusky; nasus prominent; thorax bronze, with two obsolete cinereous lines on the anterior margin; scutel pale testaceous, a large brown spot on each side; feet pale yellowish, thighs dull red-brown at base, posterior tibia in the middle and first joint of the tarsi dusky; tergum black, a large transversely oblong quadrate yellow spot occupies each

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side of the disk, and extends to the lateral edge of each of the three basal segments.

Size of *S. rostrata* Fab., to which it is very closely allied, but it has a larger portion of black upon the tergum, the incisural lines and the dorsal line being wider, and of a much more intense color; the fourth segment also is much darker than in that insect. I have a female still more like the *rostrata*; the color and markings of the head, thorax and scutel being similar, and the fourth segment of the tergum is much tinged with yellow, but still the above remark respecting the intensity of the color of the sutures and dorsal lines apply to this specimen. [95]

SICUS Meig.

S. FENESTRATUS.—Blackish; feet pale, thighs with a black line.

Inhabits the Middle States.

Antennæ yellowish-white; palpi pure white; proboscis color of the antennæ; thorax piceous-black; scutel bi-spinous; wings a little dusky; feet whitish, anterior thighs dilated, with generally a black serrated curved line on the inner side, anterior tibia and posterior thighs and tibia with a blackish line on each side, a black spot generally on the first joint of the anterior coxæ; tergum brown, last joint black.

Length three-twentieths of an inch.

[This genus is *Tachydromia* Meig.—SACKEN.]

EMPIS Fab. Lat.

1. *E. 5-LINEATA*.—Body blackish-cinereous; thorax five-lined; feet dull testaceous.

Inhabits Missouri.

Eyes sanguineous; front beneath the antennæ cinereous; proboscis dark-brown; thorax with three longitudinal, hairy, brown, dorsal lines, obsolete behind, and a lateral one each side; wings brown, somewhat paler at base; feet brown-testaceous; tarsi black.

Length to tip of wings nearly half an inch.

The nervures of the wings are like those of *Tachydromia nigripennis* Fab.

[Belongs to *Rhamphomyia* Meig.—SACKEN.]

2. *E. CILIPES*.—Body cinereous; thorax quadrilineate with black; wings brown, paler at base. [96]

Inhabits Ohio.

Body blackish-cinereous; eyes red-brown, those of the male occupying nearly all the head; stemmata black; antennæ black, first and second joints with short cinereous hairs; proboscis corneous, black, polished; thorax hairy, two longitudinal, dorsal black lines, obsolete behind, and a lateral one each side; wings brown, paler at base; nervures dark brown; feet black; posterior tibia in the male, dilated towards the tip and deeply hairy above, hairs cinereous; abdomen black, densely ciliated with cinereous hair, attenuated to an acute tip in the female, and in the male the tip is dilated, and abruptly reflected.

Length of the body three-tenths of an inch.

A rather common insect, about the 16th of May, near Cincinnati. The nervures of the wings are like those of the preceding species, from which it may be distinguished by being smaller and having one line less on the thorax, &c.

[Also a *Rhamphomyia*.—SACKEN.]

3. *E. SCOLOPACEA*.—Cinereous, with a silvery reflection; feet reddish-brown.

Inhabits Pennsylvania and Maryland.

Head black; antennæ dark reddish-brown; proboscis yellowish; thorax slightly trilineate; tergum immaculate silvery, reflexion brighter than that of the thorax; wings immaculate, nervures pale; feet dull reddish-brown.

Length rather more than three-twentieths of an inch.

On flowers.

[97]

CALOBATA Latr. Meig.

1. *C. ANTENNÆPES*.—Black; feet pale, anterior tarsi white, posterior tarsi white at base.

Inhabits the United States.

Body elongated, slender, deep black, immaculate; eyes chestnut brown; antennæ, terminal joint white; thorax deep-black, with a plumbeous tinge; feet elongated, anterior pair moderate, shorter than the body, black, pale at base, tarsi pure white, intermediate and posterior pairs much longer than the body, pale, 1823.]

thighs beyond the middle, and near the tip annulate with black, tibia black, somewhat pale towards the tip, tarsi black, of the intermediate ones pale on the terminal joint, of the posterior ones, basal joint pure white; abdomen deep black, polished, venter pale beneath on the middle segments.

Length of the body three-tenths, of the posterior feet less than three-fifths of an inch.

The anterior pair of feet, when compared with the others, are very short, and being extended before the head, considerably elevated above the plane on which the insect moves, and also being constantly vibrated, they assume the appearance of antennæ. The whiteness of the anterior tarsi is very distinct and characteristic.

This species occurred in the State of Illinois, it is also found in Philadelphia.

2. *C. PALLIPES*.—Black; mouth, antennæ and feet yellowish-white. [98]

Inhabits Missouri.

Body black, elongated, slender; front, antennæ and mouth yellowish-white; vertex velvet black, opaque, margined each side by a silvery line: thorax with a whitish line each side before the wings: nervures pale; feet including the coxæ yellowish-white.

Length to the tip of the abdomen, more than one-fourth of an inch.

A much smaller species than the preceding.

[This species is a *Micropeza* Meig.—SACKEN.]

LOXOCERA Latr.

L. CYLINDRICA.—Yellowish-rufous; feet paler.

Inhabits Pennsylvania.

Body yellowish-rufous; head obsoletely varied with dusky behind the vertex; antennæ fuscous, pale at base, beneath the head whitish; thorax with an undulated band on the anterior margin, dorsal line and an obsolete line before the wing, black; wings a little dusky, particularly at tip; feet whitish; abdomen immaculate.

Length less than three-tenths of an inch.

Var. a. Lineations of the thorax obsolete or wanting.

About the size of *L. ichneumonca* Fab., but it differs from that insect in many characters.

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PYROPA Illig.

P. FURCATA.—Yellowish, hairy; below the scutel pale plumbeous; wings with two dusky anastomoses. [99]

Inhabits Missouri.

Body pale yellowish-brown, hairy; head beneath the antennæ and narrow orbits yellowish-white, a little polished; antennæ and large spot above bifurcated at tip, rufous; proboscis piceous; thorax lineated obsoletely with brown; wings with two blackish anastomoses; beneath the scutel tinged with pale plumbeous extending downward to the origin of the posterior feet; tergum densely hairy: feet hairy, particularly the anterior pair, the thighs of which are marked by a dilated dusky line above.

Length to the wing tips from two-fifths to nine-twentieths of an inch.

Rather less than *P. lutaria* which it very strongly resembles. but may be distinguished by the dusky mark on the anterior thighs.

[This genus is *Scatophaga* Latr.—SACKEN.]

OCHTHERA Latr.

O. EMPIFORMIS.—Whitish; tergum black; head cinereous, eyes very large, black.

Inhabits Illinois.

Body whitish; head cinereous, sub-globular; eyes oval, very large, approximating beneath the origin of the antennæ black; antennæ whitish, abruptly broken outwards at the third joint; rostrum pale; thorax dusky above; feet white, anteriors, thighs dilated, robust, emarginate behind the inferior middle, for the reception of the tips of the tibia, and armed beneath with distant equidistant, rather long setæ, tibia incurved at tip and mucronate, armed beneath with [100] approximate, short, setæ, intermediate and posterior feet white, tips of the tarsi blackish; abdomen deep black, immaculate.

Length of the body one-tenth of an inch.

[Wiedemann has changed the name to *O. empidiiformis*.—SACKEN.]

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SCENOPINUS Latr. Fabr.

S. PALLIPES.—Thorax black, a little metallic, a small rufous tubercle on the edge near the humerus; feet pale.

Inhabits Pennsylvania.

Head black, slightly metallic, with numerous short hairs, giving it a granulated appearance, a glabrous polished frontal and orbital line; thorax with numerous short hairs and with the scutellum appearing granulated, an obsolete rufous tubercle on the lateral edge near the humerus; wings a little dusky, nervures brown; poisers yellowish, on the superior surface dark brownish; feet pale-yellowish, tarsi dusky; tergum black, transversely grooved, polished; venter black, with a metallic tinge.

Length ♀ less than one-fifth of an inch.

This species is very closely allied to *S. fenestratus* Fab.

BACCHA Meig.

B. FUSCIPENNIS.—Bronzed; wings dusky, with a whitish spot at the extremity.

Inhabits Pennsylvania.

Body dark bronzed: head yellowish, above the [101] antennæ bronzed; wings dark fuliginous, with a hyaline marginal on the thinner margin near the tip and near the base; feet dull testaceous, posterior pair much the longest: abdomen elongated cylindrical, tinged with rufous.

HELEOMYZA Fall.

H. 5-PUNCTATA.—Light reddish-brown; wings with a few fuscous spots; tergum fasciate with black.

Inhabits Missouri.

Body pale reddish-brown; vertex tinged with fulvous; eyes dull sanguineous; antennæ reddish-brown, seta black, plumose, at base separated by a slightly elevated, obtuse, abbreviated carina; front yellowish-testaceous; gula and jugulum, whitish; thorax with numerous black points, and two dorsal series of setæ; wings dusky, five blackish spots, of which two are on the anastomoses and three at the tip, costal edge with short rigid setæ; pectus, venter and feet whitish-testaceous, three terminal

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tarsal joints black; tergum paler than the thorax, posterior margins of the segments with a definite black band.

Length to the tip of the wings seven-twentieths of an inch.

Very common on the Missouri; I observed it particularly above Cow Island.

[The genus is called *Helomyza* Fall.—SACKEN.]

OLFERSIA Leach.

O. ALBIPENNIS.—Blackish-brown; wings whitish. [102]

Inhabits *Ardea herodias*.

Mentum white; thorax with the cruciate lines distinct, the longitudinal line tinged with yellow, humeral tubercle prominent, pale, obtuse; scutel with an impressed line; nervures brown, inner cellule less than half as long as the preceding one which extends to the base of the wing; pectus with a prominent angle each side between the anterior pairs of feet; tergum pale brownish, with a black base, disk and tip.

Length one-fifth of an inch.

ORNITHOMYIA Latr. Leach.

1. O. NEBULOSA.—Head yellow; feet pale; tibia with two reddish-brown lines.

Inhabits *Strix nebulosa*.

Eyes blackish-brown; vagina and hypostoma pale; thorax reddish-brown, with a large yellowish humeral spot and three longitudinal lines, of which the intermediate one includes an impressed line, which interrupts a transverse impressed line; humeral angle prominent, subacute; spiracle white; marginal nervures blackish-brown, those of the disk brown; scutel reddish-brown, varied with yellow at base; pectus yellow-white, anterior margin bifurcated; tarsi dark reddish-brown, nails black; abdomen pale-brownish, with black hair, first segment on its anterior face pale-yellow.

Length three-tenths of an inch. [103]

2. O. PALLIDA.—Pale; intermediate cellule of the wing extending nearly to the tip of the outer cellule.

Inhabits *Sylvia sialis*.

Eyes blackish-chestnut; antennæ chestnut, tip white; labrum bifurcated, white; hypostoma whitish; front yellow-white, a 1823.]

brown lunule above the hypostoma and spot on the vertex; throat and cheeks white; thorax varied with pale-yellowish and pale honey-yellow, impressed cruciform lines distinct; scutell pale honey-yellow, edged with pale-yellow; costal nervures dark-brown at base, and those of the disk brown, the transverse nervure of the intermediate cellule is in contact with that of the preceding cellule; pectus and feet white, tibia with a brown line, tarsi tinged with green; nails black; abdomen yellowish-white.

Length less than one-fifth of an inch.

3. *O. CONFLUENTA*.—Reddish-brown; costal nervures of the wing confluent before their termination.

Inhabits *Ardea candidissima*.

Vertex with a deeper brown spot; occiput pale yellowish; humerus with a pale spot, the angles not all produced, obtuse; costal nervures fuscous; feet yellow-brown, tibia with a dark-brown line, nails black.

Length rather more than one-tenth of an inch.

The remarkable character of the costal nervures of this species sufficiently distinguish it from others; these nervures are confluent about half the length from the termination of the first cellule to their tip.

[Wiedemann observes that the name should be *O. confluens*.—SACKEN.]

[104]

MELOPHAGUS Latr. Leach.

M. DEPRESSUS.—Pale-testaceous; eyes subovate.

Inhabits *Cervus Virginianus*.

Body polished, a little hairy, but appearing perfectly glabrous to the eye: hypostoma yellow, with two brown lines; vertex dusky, with three indented punctures; thorax unequal, with an impressed line in the middle, with a dark reddish-brown posterior and lateral edge; feet slightly hairy, claws black; pectus with transverse rows of very short black spines; tergum depressed, punctured, two impressed lines diverge from near the base to the margin, beyond the middle; venter paler than the tergum, with short prostrate black hair-like spines, and an arcuated series of spines near the base.

Length less than three-twentieths of an inch.

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This appears to be a much smaller species than the *Hippobosca cervi* of Oliv., to which it is very probably allied, though on comparison with Oliver's description I conclude it is very sufficiently distinct. It has, like that insect, slight rudiments of wings.

[From Jour. Acad. Nat. Sci., Philadelphia, Vol. 3, 1823, pp. 139—216.]

Descriptions of Coleopterous Insects collected in the late Expedition to the Rocky Mountains, performed by order of Mr. Calhoun, Secretary of War, under the command of Major Long.

Read Oct. 22, 1823.

MANTICORA Fab.

M. CYLINDRIFORMIS.—Dark chestnut-brown; elytra irregularly punctured. [140]

Inhabits Arkansa.

Body dark chestnut-brown, impunctured: head blackish: labrum bidentate: mandibles very strongly toothed: thorax narrowed behind, not elevated; a longitudinal impressed acute line, a transverse obsolete arquated indented line before originating at the anterior angles, and a still more obsolete line also originating at the anterior angles and forming an angle behind the middle; base not sinuated, with a marginal and obsolete submarginal indented line: scutel none: elytra joined at the suture, rather paler than the thorax; irregularly marked with unequal punctures, many of which are preceded by a slightly elevated point; a submarginal and marginal elevated line, line of the edge acute, not more elevated than the others: epipleura with larger and more distinctly scabrous punctures.

Length more than one inch.

Found at the base of the Rocky Mountains. The abdomen is much less dilated than that of *M. maxillosa*.

[Afterwards the type of *Amblychila* Say.—LEC.]

CICINDELA Lin. Latr.

1. *C. SCUTELLARIS*.—Green; elytra, excepting the anterior portion of the suture, reddish-brassy polished.

Inhabits Arkansa.

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Head and thorax green, a little varied with violaceous : antennæ black at tip : labrum and mandibles at base above, white : elytra abruptly rounded at tip, punctured, a few larger punctures at base ; brilliant [141] reddish-brassy ; region of the scutel from the middle of the base to beyond the middle of the suture, green : beneath blue varied with violaceous.

Length two-fifths of an inch.

A rather small, but very pretty species ; it was brought from the Arkansa by Mr. Thomas Nuttall.

2. *C. FULGIDA*.—Above red-cupreous, brilliant ; elytra with two lunules and an intermediate refracted band.

Inhabits Missouri Territory.

Body, above red-cupreous, highly polished : head hairy before, varied with green and blue each side and before : labrum and exterior base of the mandibles white : antennæ black at tip : thorax, impressed lines blue : elytra densely punctured ; a dilated lunule at the basal margin, a dilated refracted band behind the middle, and a dilated lunule at the tip, white : beneath, hairy green.

Length less than half an inch.

In the dilated appearance of its lunules and band, this species very much resembles *C. formosa*, but it is a much smaller insect, much more highly polished, and not margined with white as in that insect. It inhabits near the mountains on the Nebraska (Platte) and Arkansa rivers.

3. *C. LIMBATA*.—Elytra white, suture, oblique line and dot green, exterior and basal edge bluish.

Body green, varied with blue and purple, and with cinereous hair : antennæ black at tip : labrum, and exterior and superior base of the mandibles, white : thorax hairy each side ; indented lines violaceous : [142] elytra white, a green sutural vitta narrowed behind, an oblique irregular line behind the middle, and a small triangular dot before the middle, green ; exterior edge and basal edge bluish-green or violaceous : beneath hairy : venter purplish.

Length less than half an inch.

This species, at first sight, resembles *C. dorsalis*, but is very distinct in its markings and in the form of its thorax. Found on the Nebraska (Platte) and Arkansa rivers.

[Unknown to me.—LEC.]

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4. *C. PULCHRA*.—Elytra red-cupreous, highly polished, exterior margin purple, with two white dots.

Inhabits Missouri Territory.

Body greenish-purpurescent: vertex with a large cupreous spot: front very hairy: antennæ, terminal joints black: labrum short, wide, hardly longer in the middle than each side; slightly 3-toothed: mandibles white; teeth, extremity and inferior surface, black: thorax, disk with a larger double purplish-cupreous spot: elytra reddish-cupreous very brilliant; exterior margin purplish-blue, with a humeral white dot and an angular white dot near the middle; punctures numerous, larger, and more profound towards the base, obsolete at tip: pectus hairy each side; postpectus and feet hairy.

Var. a. Spot upon the humerus, none.

Length less than seven-tenths of an inch.

A remarkably splendid insect, and is a large species. It occurs in the country bordering the Platte and Arkansa rivers near the mountains. [143]

5. *C. OBSOLETA*.—Black; labrum and point on the elytra white; venter purple-black.

Inhabits Missouri Territory.

Body deep black, opaque: cheeks tinged with purplish, polished: antennæ four basal joints dark purplish: labrum and exterior base of the mandibles white: thorax with two transverse indented lines connected by a longitudinal one; lateral margin with cinereous hair: elytra with minute profound punctures towards the base, impunctured towards the tip; a transverse white abbreviated line on the middle of the submargin, and an obsolete apical dusky-yellowish dot: venter tinged with purplish.

Length four-fifths of an inch.

Var. a. Black, immaculate.

This large and fine species we observed to be not uncommon on the banks of the Arkansa river, near the mountains. It seems to be closely related to *C. tristis* Fab. The elytra exhibit in some lights a silky appearance.

BRACHINUS Weber, Latr.

B. *CYANIPENNIS*.—Testaceous; elytra blackish-blue; venter dark reddish-brown.

Length near seven-twentieths of an inch.

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Body pale testaceous, with numerous minute hairs, which on the elytra are yellowish: head with a slight irregular frontal impressed line each side: antennæ brown at tip: thorax with a longitudinal impressed line from the head to the scutellum: elytra black-blue, [144] with very obtuse hardly impressed grooves: venter testaceous or blackish-piceous.

This species was found by Mr. Nuttall in Missouri, and I have since observed great numbers of them near Engineer Cantonment. These chiefly occurred during the winter, in a quarry from which building stone had been taken for the use of Camp Missouri. They were found hibernating in the fissures of the rocks.

It differs from the *B. fumans* in being much inferior in point of size, in this respect approaching nearer to *B. crepitans* of Europe. The greatest width of the thorax is much more considerable in proportion to the shortest diameter, than that of the *fumans*, and of course the thorax appears proportionally wider before. The color, also, of the head and thorax is different, and the elytra are far more slightly grooved. It possesses the singular power of erepitating common to its congeners.

FERONIA Latr.

1. *F. SUPERCILIOSA*.—Apterous; black, impunctured; elytra tinged with purplish; basal thoracic lines dilated.

Length nearly two-thirds of an inch.

Body black, impunctured, glabrous: antennæ surpassing the base of the thorax, with brownish hair towards the tip; frontal groove much dilated: labrum and palpi piceous, the former emarginate; thorax wide before, much narrowed behind; dorsal [145] line distinct, basal lines dilated; a very distinct anterior transverse line; lateral edge rectilinear from near the middle to the posterior angles; posterior angles rounded; base wider than the petiole: elytra tinged with purple; striae profound, impunctured; interstitial lines convex: beneath tinged with piceous.

This species, which seems to belong to the genus *Pterostichus* of Bonelli, is closely allied to that which I have described under the name of *stygius*, but the thorax is differently formed, being much wider before, the antennæ longer, frontal grooves more dilated, the elytra of a different color and more obtuse.

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[This is the same as *F. moesta* Say, Trans. Am. Phil. Soc. 2, 42.—LEC.]

2. *F. HEROS*.—Apterous, black; mandible striated; thorax contracted abruptly at base, posterior angles acute; elytral striæ slightly impressed, punctured.

Length rather more than nine-tenths of an inch.

Body black and glabrous: mandibles much and deeply striated: thorax large, convex, rather abruptly contracted at the basal margin; dorsal and anterior and basal lines distinct, basal margin depressed, near the angles rugose; an elevated line on the basal margin near to, and parallel with, the lateral edge; basal angles rectangular: elytra very slightly striated; striæ acute, punctured, punctures obsolete towards the tip; interstitial lines flat: beneath black.

Brought from the Arkansa by Mr. Thomas Nuttall. It is the largest native species I have seen of this genus, and is probably referable to the genus *Pterostichus* of Bonelli.

[Belongs to *Evarthrus* Lec.—LEC.]

[146]

3. *F. MACULIFRONS*.—Black; thorax narrower than the elytra; vertex with two obsolete piceous spots; elytra with acute impunctured striæ.

Length more than two-fifths of an inch.

Body black, glabrous: vertex with two obsolete piceous spots, placed near the eyes, and very distinct in a particular exposure to the light: antennæ piceous, the joints paler at their bases, towards the tip with light brownish hair: palpi, tip of the mandibles and of the labrum piceous, the former tipped with pale yellowish: thorax narrower than the elytra, longitudinally suborbicular; lateral edge a little recurved, particularly at the hind angles, which are not excurved, but obtusely rounded; dorsal line and anterior transverse line impressed, basal lines almost obsolete in the concavity of the lateral base, which is not rugose: elytra with a very slight cupreous reflection; striæ acute, impunctured, interstitial lines flat: all beneath piceous.

This insect was found in the Arkansa Territory by Mr. Thomas Nuttall. It is so closely allied to the species which I have named *placida*, as not to be, at first sight, distinguished from it; nevertheless, on comparing it with that species, it will be discovered 1823.]

to be distinct by the spots on the vertex, the somewhat differently formed thorax, and by the perfect smoothness of the cavities of the lateral angles, which have not the slightest appearance of rugosity.

[A *Platynus* of the division *Agonum*, which I have thus far failed to identify.—LEC.]

4. *F. SCUTELLARIS*.—Black; posterior thoracic angles rounded; region of the scutel much impressed.

Length two-fifths of an inch.

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Body depressed, black, immaculate; antennæ black; thorax with a narrow margin; dorsal line distinct; basal lines dilated, so as to resemble large impressed spots; lateral edge regularly arcuated, not excurved behind; basal angles rounded: elytra, obsoletely punctured; interstitial lines a little convex; region of the scutel much impressed; humerus gibbous; coxæ and tarsi piceous.

5. *F. ERRANS*.—Green, polished; beneath black: feet, base of the antennæ, of the palpi rufous.

Body above polished green: labrum dark reddish-purple: antennæ fuscous, basal joint rufous; palpi fuscous; thorax obviously wider than long; dorsal line distinct; basal lines much dilated and with a few punctures: an obvious narrow margin, and reflected edge; lateral edge not excurved behind; posterior angles rounded; base much wider than the petiole: elytra with a very slight reddish reflection; striæ very narrow, impunctured; interstitial lines flat: beneath black: feet rufous.

This species resembles *F. nutans* Say, but may be distinguished by a shorter thorax, which is margined and at base wider.

[Also a *Platynus*.—LEC.]

6. *F. CONSTRICTA*.—Apterous, black; thorax much contracted behind; elytra with punctured striæ.

Length half an inch.

Body apterous, black; antennæ fuscous, piceous at base; labrum and palpi piceous: mandibles striated obliquely: thorax convex, wider than long, rather abruptly contracted at the posterior margin, [148] which is depressed; dorsal, basal, and anterior lines distinct, impunctured, the former attaining the base; basal lines double; lateral edge much rounded, abruptly excurved

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at the posterior margin; basal angles rectangular, acute; base much narrower than the elytra: elytra with punctured striæ, punctures small; interstitial lines slightly convex; beneath dark piceous or blackish.

The form of the body and the curvature of the thorax are very similar to those of *F. unicolor* Say, nevertheless it is a much smaller insect, the thoracic base is depressed and the posterior angles are acute, and the striæ of the elytra are more deeply impressed than in that insect. It was found on the Arkansa river near the Rocky Mountains. It belongs to the genus *Pterostichus* of Bonelli.

[Belongs to *Evarthrus*.—LEC.]

ZABRUS Clairv.

Z. AVIDUS.—Black; feet rufous; base of the thorax and striæ of the elytra punctured.

Length seven-twentieths of an inch.

Body deep black: labrum deep piceous: antennæ and palpi rufous: thorax short and wide, with a few punctures before, and numerous ones on the posterior depressed margin; dorsal line very distinct; elytra punctured; interstitial lines depressed, a little convex; beneath black: venter deep piceous at tip: feet rufous.

[An *Amara* of the division *Liocnemis*, afterwards described as *A. confinis* Dej.—LEC.]

[149]

CALOSOMA Linn. Latr.

I. C. OBSOLETA.—Brownish-black; elytra reticulated and with three series of impressed bluish spots.

Inhabits Arkansa.

Body brownish black: mandibles rugose and convex on the superior surface: thorax obtusely and minutely rugose, impunctured; region of the posterior angles indented; an abbreviated impressed dorsal line; posterior angles rounded, extended backward a little beyond the basal line: elytra reticulate; longitudinal lines slightly impressed, not more dilated than the transverse ones, which are mostly continuous, their points of intersection marked by a puncture; three series of impressed bluish or violaceous obscure spots on each elytron; lateral margin in a certain light very obscurely purplish.

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Length seven-tenths of an inch.

Found near the Rocky Mountains.

[Afterwards described by Dejean as *C. luxatum*.—LEC.]

2. *C. LUXATA*.—Brownish-black; elytra reticulate; head and thorax minutely punctured.

Inhabits Arkansa.

Mandibles flattened above, rugose, with oblique lines: head punctured: antennæ, second joint half as long as the third: thorax minutely punctured, punctures larger and confluent on the lateral margin; posterior angles rounded, extending backwards a little beyond the basal line; an impressed longitudinal line: elytra suborbicular, reticulate; longitudinal lines not more dilated or profoundly impressed than [150] the transverse ones, which are not continuous, the points of intersection not distinguished by a puncture; the three punctured striæ obsolete, their traces hardly discernible in a certain light and not differently colored.

Length more than three-fifths of an inch.

This insect has the short, transverse thorax of *Calosoma*, but the proportions which the joints of the antennæ bear to each other are similar to those of many *Carabi*: the transverse lines are dislocated by the longitudinal ones.

[Belongs to *Calisthenes*: which however is not now adopted by many entomologists.—LEC.]

CARABUS Linn. Latr.

C. EXTERNUS.—Winged, black, margined with purplish; elytra with three series of obsolete punctures.

Length one inch and three-twentieths.

Body elongated, deep black: antennæ brown at tip; thorax punctured, margined with bluish-purple; lateral edge regularly curved to the base: dorsal and basal lines distinct; basal angles obtusely rounded; elytra striate; striæ well impressed, much narrower than the interstitial lines, and with conspicuous, definite punctures; interstitial lines convex, equal, the fourth, eighth, and twelfth each with a series of obsolete small punctures, which do not interrupt them; exterior margin bluish-purple.

A large species, brought from Arkansa by Mr. Thomas Nuttall. It somewhat resembles *C. sylvosus*, but is larger, the striæ of the elytra are much more regular, exhibiting nothing of the gran-

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ulated appearance [151] of those of that insect, and the curve of the exterior edge of the thorax is regular, or without any tendency to excurvature near the base.

[Belongs to *Calosoma*, and subsequently described as *C. longipenne* Dej.—LEC.]

BEMBIDIUM Latr.

1. *B. COXENDIX*.—Greenish-brassy, beneath green; tibia and anterior trochanters, testaceous; thorax, basal line oblique each side.

Length one-fourth of an inch.

Body greenish-brassy, polished: labrum green: antennæ dull green, covered with light brownish hair; basal joint testaceous before and greenish behind: palpi greenish, hairy, testaceous on the inferior base: thorax with a green exterior margin; exterior edge excurved at base; dorsal line slightly impressed, narrow; transverse basal line very distinct; basal margin a little rugose, particularly near the angles; angles acute: elytra with a green margin; striæ with rather large punctures; beneath dark green: coxæ tibîæ, and knees beneath, testaceous.

Var. a. Feet entirely pale rufous.

2, *B. INÆQUALIS*.—Bronzed; elytra of unequal surface, and two impressed spots on each elytron.

Length less than one-fourth of an inch.

Body bronzed above; beneath blackish-green: base of the antennæ and of the palpi pale rufous: thorax, dorsal impressed line, and anterior and posterior lines very distinct: elytra, surface uneven, with two very obvious dilated impressed spots on the third interstitial line; striæ widely and profoundly [152] punctured, the fourth stria undulated: feet blackish-green, rufous at base.

This is a very distinct species; it occurred near Engineer Cantonment.

OMOPHRON Latr.

O. TESSELATUS.—Pale, varied with green; elytra somewhat tessellate with green.

Inhabits Missouri.

Body rufous, punctured; head green behind, between the eyes [1823.]

a longitudinal and oblique dilated line united in the form of a W; labrum white: thorax with a green disk and longitudinal impressed line: elytra with punctured striæ, green; margin, two undulated bands and tip, pale rufous; pectus and postpectus darker rufous: feet whitish.

Length more than one-fourth of an inch.

I observed this species in plenty on Elk-horn Creek. The elytra have a tessellated appearance in consequence of the undulations of the bands being subquadrate, particularly the two nearest to the disk.

[Afterwards described by Dejean as *O. Lecontei*.—LEC.]

COLYMBETES Clairv.

C. VENUSTUS.—Reddish-yellow; thorax at tip and base black; elytra dusky olivaceous with a pale external margin, interrupted base and abbreviated subsutural line.

Body reddish-yellow: vertex dusky: thorax, anterior [153] margin to the eyes on each side, and posterior margin as far as the middle of the base of each elytron, black: elytra dusky olivaceous or blackish; a yellowish exterior margin attenuated towards the humerus, and a whitish external submargin composed of three somewhat oblique approximate lines, of which the inner one is abbreviated before the middle; a dilated, subtriangular white line from the humerus to the middle of the base, where it abruptly terminates; a subsutural white line from near the base is attenuated and terminated before the middle; disk with two obsolete interrupted lines: venter each side dusky.

Length one-third of an inch.

Found many specimens in a pond near Bowyer Creek, Missouri. It is also an inhabitant of the Atlantic States. I think it probable that this is the *Dytiscus interrogatus* of Fabricius.

[This was afterwards made the type of *Copdotomus* Say; it does not appear to differ from *D. interrogatus*.—LEC.]

HYDROPORUS Clairv.

H. PARALLELUS.—Black; elytra lineate with yellowish.

Inhabits Missouri.

Body black: head before and a small obsolete spot on the vertex, rufous: antennæ pale at base, dusky at tip: palpi pale, tip

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black, thorax varied with reddish-yellow: elytra with several longitudinal reddish-yellow lines, the exterior and interior ones interrupted: feet pale testaceous.

Length less than one-fifth of an inch.

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This species, like many other species of this genus, varies in the number of visible lines of the elytra and in their being more or less interrupted, but the abbreviated lines into which they are sometimes interrupted do not form bands, and at least one line is continuous to near the tip, a character which distinguishes it from the following species.

[Previously described as *H. catascopium* Say, Trans. Am. Phil. Soc. 2, 103, and subsequently as *H. interruptus* Say, ib., 4, 445.—LEC.]

2. *H. UNDULATUS*.^(a) Rufo-testaceous; elytra blackish-olivaceous, literate with testaceous.

Inhabits Upper Missouri.

Dytiscus undulatus Melsh. Catal.

Body rufo-testaceous; thorax, anterior margin black on the middle, posterior margin black in the middle as far as opposite the middle of the base of each elytron: elytra blackish, an irregular marginal spot extends from the humerus to nearly one-third of the length of the elytron, and obsoletely communicates at its dilated middle with a band composed of two or three longitudinal abbreviated lines, of which the inner one is subsutural; a smaller, marginal, irregular literate band behind the middle, and an irregular spot at tip.

Length more than three-twentieths of an inch.

Found in a pond near Bowyer Creek, Upper Missouri. It is not uncommon in Pennsylvania.

PÆDERUS Fabr.

P. BINOTATUS.—Reddish-yellow; head, a part of each elytron and the tail, black; feet pale.

Body pale yellowish-red, with numerous very short [155] hairs; punctured: head black, larger than the thorax: antennæ and trophi pale; thorax longitudinally subovate, punctures dense: elytra each with a large black spot on the exterior side towards the tip: abdomen, terminal segment and tail black: feet whitish. 1823.]

Length three-twentieths of an inch.

Found near the Missouri above the confluence of the Platte. It is also an inhabitant of the Eastern States.

[I do not know this insect. Erichson, Staphyl. 645, supposes it to belong to *Sunius*.—LEC.]

OXYTELUS Gravenh.

1. O. PALLIPENNIS.—Testaceous; head black; tip of the clypeus elevated and bidentate; thorax wider than than long, with an impressed line.

Body pale testaceous, punctured, with very short hairs: head black, punctures sparse before: eyes black, with a golden reflection: clypeus at the middle of the tip, elevated, prominent and bidentated: antennæ and carina at base, rufous pale: mandibles porrected, piceous, bifid to the middle; superior segment or tooth rather shorter than the other: palpi pale: thorax wider than long, reddish-brown with an impressed dorsal line: elytra dusky at tip and on the sutural edge: feet whitish.

Length about seven-twentieths of an inch.

On the banks of the Missouri below the confluence of the Platte river.

[This and the three following belong to *Bledius*.—LEC.]

2. O. ARMATUS.—Pale reddish-brown; head black; carina at base of the antennæ piceous at tip. [156]

Female.—Body light reddish-brown, punctured, a little hairy: head black, punctures obsolete; an abbreviated, vertical carina over the anterior portion of the eye, terminating abruptly at the origin of the antennæ, and piceous at tip; anterior angles of the clypeus reflected: antennæ and palpi pale rufous: mandibles piceous: thorax length and breadth subequal, with a longitudinal impressed line; punctures sparse; edge blackish: elytra, punctures distinct, numerous; sutural edge blackish: thighs testaceous.

Length from one-fifth to one-fourth of an inch.

Male.—Rather paler than the female; a tubercle between the eyes: thorax with a longitudinal impunctured, dorsal line: tergum darker at tip.

Length one-fifth of an inch.

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3. *O. MELANOCEPHALUS*.—Pale testaceous; head and postpectus black; suture dusky.

Body pale testaceous, or whitish: head deep black: antennæ and mouth pale testaceous: mandibles unarmed: elytra, suture blackish: postpectus black.

Length nearly one-tenth of an inch.

Var. a. Abdomen reddish-brown.

On the banks of the Missouri above the confluence of the Platte river.

4. *O. FASCIATUS*.—Blackish; elytra pale yellowish; abdomen reddish-yellow, obsoletely fasciate with dusky.

Inhabits Missouri.

Body blackish, punctured, hairy: head black, impunctured, covered with very minute granules: antennæ and mouth testaceous; mandibles piceous: thorax piceous-black; rather large distinct punctures; posterior edge rounded without angles, and distinct from the elytra: elytra, pale yellowish, dusky at the interior base and suture; numerous rather large distinct punctures; tip obtusely rounded: beneath reddish-brown: feet rather paler: tergum reddish; segments each with a definite, dusky band at tip: venter, each segment with an obsolete blackish transverse line on the middle.

Length less than three-twentieths of an inch.

Found near Engineer Cantonment.

ALEOCHARA Gravenh.

A. *BIMACULATA*.—Black; elytra each with an obsolete, yellowish, subsutural spot behind.

A. bimaculata Knoch in Melsheimer's Catalogue.

Body black, slightly punctured, hairy: front each side excavated from the insertion of the antennæ to the mouth: palpi pale, maxillaries dusky above: thorax each side and angles regularly rounded, slightly hairy; two longitudinal, dilated, hardly impressed, punctured lines behind: scutel transversely triangular: elytra not covering half of the tergum, with very numerous, prostrate hairs; a large obsolete, yellowish, subsutural spot at the tip of each: feet dark piceous towards the tips.

Length less than one-fifth of an inch.

Found above Fort Osage.

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TACHINUS Gravenh.

T. atricaudatus.—Rufous, impunctured; head and middle of the antennæ and postpectus black; elytra behind, and tip of the abdomen, dark blue.

Body yellowish-rufous, impunctured, with few hairs; polished: head black: labrum and mouth testaceous: antennæ testaceous; from the fifth to the tenth joints inclusive, black: thorax with a few indistinct hairs: elytra with a large deep blue spot on each, the anterior edge of which curves from behind the humerus, to behind the middle of the sutural margin; a subsutural series of remote punctures, and a series exterior to the middle: postpectus black, with large, slightly impressed punctures: feet pale testaceous: abdomen with a few hairs, and distant, larger black ones on the posterior margins of the segments; terminal and anal segments deep blue.

Length nearly one-fifth of an inch.

Found on the Konza river.

[Belongs to *Boletobius*; previously described as *T. cinctus* Grav.—LEC.]

ANTHOPHAGUS Gravenh.

A. brunneus.—Reddish-brown; feet and abdomen paler; an impressed thoracic line and dot at base.

Body reddish-brown, punctured, with numerous short hairs: head unequal, indented between the eyes and between the antennæ: antennæ, palpi, and feet testaceous: mandibles piceous at tip: thorax [159] densely punctured, subrotund; posterior angles rectangular; a dorsal impressed line, terminated on the posterior submargin by an impressed dot: elytra densely punctured, posterior lateral angles rounded, sutural tip acute: abdomen pale reddish-brown, segments margined round with dusky, a dusky spot near the tip of the tergum.

Length less than one-fourth of an inch.

On the banks of the Missouri above the confluence of the Platte river.

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BUPRESTIS Linn Latr.

1. B. CONFLUENTA.—[Ante, 1, 60.]

2. B. LATERALIS.—Black; head and thorax dull brassy, the former canaliculate, the latter with a posterior dorsal and anterior lateral indentation.

Inhabits Missouri.

Body elongated, black, scabrous: head dull brassy, superficially punctured; a profoundly impressed line abbreviated before: antennæ blackish: thorax dull brassy, somewhat scabrous; a round indented spot behind the middle, and an oblique profound oblong one each side, at the anterior termination of which the thoracic edge is dilated; basal edge sinuous: scutel black, subtriangular: elytra scabrous, entire, slightly indented at base: tail rounded.

Length one-fifth of an inch.

Distinguishable by the dilatation of the lateral thoracic edge.

[Belongs to *Agrilus*.—LEC.]

3. B. ATROPURPUREUS.—Black, slightly tinged with bronze or purplish; elytra serrate and mucronate.

Inhabits Arkansa.

Body punctured: antennæ black: labrum piceous: thorax with elevated obtuse punctures and slightly impressed dilated ones each side; an indented spot on the middle of the basal margin: elytra scabrous with minute reflected and depressed points; lateral edge regularly serrated; tip mucronate: beneath dark purplish.

Length less than three-tenths of an inch.

Taken near the Rocky Mountains. The color to the eye is black, but upon attentive observation it will be perceived to be tinged with purplish.

[Belongs to *Melanophila*.—LEC.]

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4. B. 6-GUTTATA.—Black-brassy; elytra each with three indented cupreous spots.

Inhabits the United States.

Buprestis 4-maculata Melsh. Catal.

Body blackish with a strong brassy tinge: head punctured; a profound sinus each side for the reception of the antennæ; tip emarginate: labrum green: antennæ brassy-green: thorax short, transverse, densely punctured; not wider behind, angles rounded: 1823.]

scutel triangular, green : elytra with three or four elevated longitudinal lines on each, and three impressed reddish-cupreous spots placed one at the base, one rather before the middle, and the third behind the middle ; edge minutely serrate.

Length seven-twentieths of an inch.

I have been under the necessity of applying another name to this insect, as that given by Mr. Melsheimer is preoccupied by a different species. We found this during our expedition to the Missouri, and it is also an inhabitant of the Atlantic States.

[Belongs to *Chrysobothris*.—LEC.]

5. *B. GIBBICOLLIS*.—Black ; elytra each with two large yellow spots.

Inhabits Arkansa.

Body black, with a slight violaceous tinge, and with very numerous very short hairs ; punctured : thorax gibbous, arising into a very obtuse obsolete tubercle each side above ; covered with dense hair ; posterior edge rectilinear, angles rounded : scutel orbicular : elytra punctured, destitute of striæ ; posterior edge finely serrated ; tip entire ; a very large [162] elongated spot extending from the base to the middle, and a smaller orbicular one towards the tip : venter violaceous.

Length less than three-tenths of an inch.

A very pretty insect ; but a single specimen was procured. Can this be the *B. volvulus* Fab. ?

[A species of *Ptosima* subsequently described as *P. luctuosa* Gory.—LEC.]

6. *B. GRANULATA*.—Green, granulated ; elytra with an elevated line, and serrodentate at tip.

Inhabits Missouri.

Body cylindrical, olive-green, granulated : head punctured, with a profound sinus each side for the reception of the antennæ ; tip rounded : eyes whitish, with a black oblong moveable pupil : thorax with an oblique indented line each side, and a longitudinal dorsal one ; basal edge sinuated ; scutel transversely elongated, with an impressed transverse line behind : elytra scabrous or granulated, without striæ or punctures ; an elevated longitudinal line, and an indented large spot at base ; tip serrodentate.

Length two-fifths of an inch nearly.

[Belongs to *Agrilus*.—LEC.]

7. *B. VIRIDICORNIS*.—Head and thorax red-coppery ; antennæ green ; elytra obscure, entire.

Inhabits Missouri.

Body somewhat depressed : head reticulate, red-coppery : eyes rather large ; antennæ green : thorax transversely indented each side behind the middle ; red-cupreous, reticulated ; posterior edge rectilinear : scutel triangular : elytra obscure or slightly brassy, slightly rugose, destitute of striæ, rounded at tip, entire or obsoletely serrated : beneath dark brassy, brilliant ; tail rounded, entire.

Length rather more than one-fifth of an inch.

[Belongs to *Anthaxia*.—LEC.]

[163]

8. *B. GEMINATA*.—Greenish, scabrous ; thorax sub-inequal ; elytra entire, indented at base.

Inhabits Missouri.

Buprestis viridis Melsh. Catal.

Body greenish or dull cupreous, scabrous : head densely punctured ; an indented line on the vertex : antennæ blackish-green : thorax sub-inequal ; a double obsolete indented spot placed longitudinally on the back, and a lateral oblique one ; a carinate line at base near the posterior angles, which are acute ; posterior edge sinuate ; surface with numerous, somewhat irregular, transverse slightly elevated, abbreviated, confluent lines : elytra scabrous, greenish, tinged with violaceous.

Length more than one-fifth of an inch.

The *B. viridis* of Melsheimer is the same with this or a mere variety. I have been under the necessity of changing the name, his being already occupied.

[A species of *Agrilus*.—Lec.]

9. *B. DIVARICATA*.—Greenish-cupreous above, beneath cupreous ; elytra attenuated and divergent at tip.

Inhabits the United States.

Head numerously and confluently punctured : mandibles black : eyes pale yellow, or brownish, with a black orbit, oval : thorax confluently punctured, subinequal, indented before the scutel : scutel orbicular, disk impressed ; elytra striate, confluently punctured, and with some elevated blackish, abbreviated lines : tips narrowed, elongated, divergent ; at the termination truncate, and 1823.]

submucronate on [164] the inner side; beneath, excepting the venter, canaliculate.

Length seven-tenths of an inch.

Remarkable by the divarication of the tip of the elytra. It very much resembles *B. lurida* Fab., in general appearance.

[Belongs to *Dicerca*.—LEC.]

10. *B. LONGIPES*.—Black; immaculate, surface granulated; elytra terminating in an abrupt short point.

Inhabits the United States.

Body deep black, immaculate; thorax with an obsolete indented line: scutel small, subangulated: elytra finely granulated: an obtuse, obsolete, elevated line from the shoulder to the tip; tip abruptly terminated by a small spine in the centre: beneath polished, slightly tinged with violaceous: tarsi of the intermediate and posterior feet elongated, as long or longer than the tibia; first joint equal to the three following ones conjunctly; fourth joint bilobate, very short.

Length half an inch nearly.

Found in Pennsylvania and the Western States.

[A species of *Melanophila*, closely allied to *M. atropurpurea* (ante p. 103,) and considered by some as the European *M. appendiculata*.—LEC.]

11. *B. CYANIPES*.—Elytra at tip narrowed, entire and divaricated; scutel transverse.

Inhabits Missouri.

Body dark cupreous, tinged with greenish: head, before the antennæ, green: antennæ dark green: thorax confluent punctured: scutel large, angulated each side behind, and excavated in the middle: elytra with darker abbreviated, elevated irregular lines; tips very slightly recurved, divaricated, entire or obsoletely [165] truncate: beneath bright cupreous, not canaliculate; tail deeply emarginate: tarsi blue.

Length two-fifths of an inch.

This specimen was brought from the Missouri by Mr. Thomas Nuttall. It resembles the *divaricata* in the manner of terminating of the elytra.

[Belongs to *Poecilonota*.—LEC.]

12. *B. CAMPESTRIS*. [Ante 1, 60.]

MELASIS Oliv.

1. *M. NIGRICORNIS*.—Black, cylindrical, punctured; thorax with indented transverse and longitudinal lines.

Inhabits Missouri Territory.

Body deep black, opaque, immaculate, scabrous: [166] head with an impressed longitudinal line: clypeus with a very profound sinus over the insertion of the antennæ, before which it is triangular: antennæ, first and second joints simple; remaining ones dilated cordate, the inner lobe more prominent; terminal joint simple, oval, acute: palpi, terminal joint, oval: thorax convex, transversely quadrate, not narrowed before; a longitudinal indented line; two abbreviated somewhat oblique ones at base, and a transverse one on each side of the middle; anterior margin obsoletely tinged with reddish; an impressed point each side of the middle of the posterior margin: elytra striate, striæ acute; interstitial lines convex, densely punctured: tibia piceous: tarsi rufous; the penultimate one a little dilated, hairy beneath, and extended beneath the base of the terminal one, but not bilobate.

Length more than one-fifth of an inch.

Of this species I found but a single specimen. It seems to approach nearest to Fabricius's description of *Elater lacunosus*, but it cannot be referred to that genus, as it is totally destitute of the pectoral spine and recipient cavity. The position of the head with respect to the thorax, is precisely as in *Buprestis*.

[A species of *Hylochaeres*.—LEC.]

2. *M. RUFICORNIS*.—Black; antennæ, feet, and base of the elytra rufous.

Inhabits Arkansa.

Body cylindrical, deep brownish-black, with very short hairs; punctures very dense, appearing granulated: antennæ robust, subfusiform; joints cordate, rufous; inserted into a very profound sinus of the [167] clypeus, which is somewhat dilated before: palpi yellowish: thorax with an impressed longitudinal line: lateral edges rectilinear from the middle to the tip of the posterior angles: scutel black: elytra striate punctured; basal half rufous: feet rufous: thighs dark piceous: tarsi, penultimate joint a little dilated, and extended beneath the base of the terminal one, but not bilobate.

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Length more than one-fourth of an inch.

A very distinct species from the preceding. Mr. Nuttall brought two specimens from the Arkansa.

[A species of *Tharops*.—LEC.]

ELATER Lin.

1. *E. AREOLATUS*.—Rufo-testaceous; head, scutellum and elytral band black.

Inhabits Mississippi.

Body rufo-testaceous, hairy: head black: clypeus very short, obtusely rounded: antennæ longer than the thorax: thorax short, somewhat transverse: scutellum black: elytra striate, punctured; region of the scutellum and dilated band on the middle black: feet pale.

Length less than one-fifth of an inch.

2. *E. DORSALIS*.—Rufous; a thoracic fusiform line, two spots and a band on the elytra, black.

Inhabits the United States.

Body rufous, hairy, punctured: head deep black: clypeus prominent, rounded: antennæ pale testaceous: thorax longitudinally oblong; a dilated, fusiform black dorsal line; posterior angles prominent: [168] scutellum black: elytra striate punctured; an oblong spot before the middle of each, and a common band behind the middle dilated near the suture, black: feet pale.

Length one-fifth of an inch.

[I consider this as a *Monocrepidius* without tarsal lobes. Germar and Lacordaire place it in *Cryptohypnus*.—LEC.]

3. *E. BELLUS*.—Black; thorax with a rufous line; elytra rufous varied with black.

Inhabits the United States.

Elater bellus Knoch in Melsh. Catal.

Body black, hairy, punctured: clypeus rounded before: antennæ pale testaceous: thorax with a longitudinal vitta and posterior angles rufous; carinated; elytra rufous, varied with black abbreviated lines; tip black, enclosing a rufous spot; feet whitish.

Length less than three-twentieths of an inch.

Var. a. Anterior thoracic angles rufous.

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This insect is not uncommon in the Atlantic States, and is also found west of the Alleghany Mountains.

[A true *Monocrepidius*.—LEC.]

4. *E. RECTICOLLIS*.—Pale testaceous, hairy; head blackish; lateral thoracic edge rectilinear.

Inhabits Missouri.

Body pale testaceous, with short dense hair: head blackish-piceous: antennæ pale: clypeus rounded: thorax lateral edge rectilinear from near the anterior angles to the tip of the posterior ones: elytra profoundly striate, punctured: feet whitish.

Length one-fifth of an inch.

[Belongs to *Adrastus*.—LEC.]

5. *E. OBESUS*.—Brown, with yellow hair; thorax convex; body short, somewhat dilated.

Inhabits Missouri.

Body reddish-brown, with yellowish hair and [169] very minute punctures: head and thorax with polished yellow hair, and numerous exceedingly minute punctures; posterior angles prominent, excurved: scutellum rounded hairy: elytra with scattered hairs, and obsoletely punctured striæ; interstitial spaces slightly convex and with minute punctures: feet rufous.

Length two-fifths of an inch.

[Unknown to me; it is afterwards (Trans. Am. Phil. Soc. 6, 168,) stated to have the unguis strongly toothed. *Cardiophori* with this character are known, but none have yet been found in the United States.

6. *E. ERYTROPUS*.—Reddish-brown, or blackish, punctured, hairy; posterior thoracic angles carinated; interstitial elytral lines punctured.

Inhabits Missouri and Pennsylvania.

Elyter erytropus Melsheimer's Catalogue.

Body reddish-brown, or blackish, with numerous short prostrate yellow hairs; punctured: head with large, profound, approximated punctures: antennæ rufous: clypeus rounded, entire: thorax with large confluent punctures on each side, and small more distant ones on the posterior disk, much smaller than those of the head; posterior angles not excurved, but nearly rectilinear with the posterior half of the lateral edge of the thorax, 1823.]

and carinated above; posterior edge slightly bidentate in the middle: scutel' rounded at base: elytra with punctured striæ: interstitial lines punctured.

Length three-tenths of an inch.

A species not distinguished by any remarkable peculiarity.

[Belongs to *Cardiophorus*.—LEC.]

7. E. CONVEXA.—Thorax black, hairy; posterior edge of the thorax with a fissure each side, and tridentate [**170**] in the middle; elytra reddish-brown; feet rufous.

Inhabits Missouri.

Head and thorax not visibly punctured to an ordinary magnifier; covered with dense prostrate yellow hair: antennæ rufous: clypeus rounded: thorax convex; posterior angles very short, carinated only on the exterior edge; posterior edge tridentate in the middle, and with a fissure on each side near the angle; scutel hairy, cordate, emargined at base: elytra reddish-brown, somewhat hairy, with punctured striæ; interstitial lines impunctured: beneath reddish-brown, covered with prostrate hair: feet yellowish-rufous.

Length more than three-tenths of an inch.

Var. a. Black; feet dark rufous. Length less than three-tenths of an inch.

The interstitial lines of the elytra are totally destitute of punctures, at least none are perceptible even with an ordinary magnifier; the thorax is very convex, and equally impunctured, and marked by four fissures in the posterior edge.

[Unknown to me; probably a *Cardiophorus*.—LEC.]

8. E. TRIANGULARIS.—Clypeus with a very profound sinus each side, for the reception of the antennæ; elytra not striate.

Inhabits Missouri.

Body black, slightly hairy, minutely punctured: head with crowded minute punctures; a very profound sinus each side over the insertion of the antennæ, anterior to which the clypeus is dilated; triangular and truncated at tip: antennæ dark piceous; [**171**] half as long as the body; first joint cylindrical; second, small piceous; third as long as the fourth and fifth conjointly: thorax convex; punctures very minute and numerous; lateral edges from near the anterior angles to the posterior ones, rectili-

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near; elytra not distinctly striated, but irregularly punctured: feet pale rufous.

Length rather more than three-twentieths of an inch.

A small insect, remarkable for the very profound sinuses over the insertion of the antennæ. It varies in having the elytra striated, and dull rufous at the base; the third joint of the antennæ also is not so long as the two following ones together.

[Belongs to *Microrhagus*.—LEC.]

9. *E. MANCUS*.—Clypeus truncated; body punctured; thorax with an impressed line behind the middle; posterior angles slightly excurved.

Inhabits Missouri.

Body black, punctured, with short hair: head with large, profound dense punctures: clypeus elevated, emarginate each side near the antennæ, and truncated before: antennæ and palpi rufous: thorax with an impressed line behind the middle; punctures numerous, profound, equal to those of the head, but not so dense; posterior angles prominent, very slightly excurved, carinate above; posterior edge slightly bidentate near the middle; an elevated, abbreviated line on the posterior margin near the lateral carina: scutellum entire at base: elytra punctured with the striae oblong and approximate; interstitial lines with minute punctures furnishing hairs: feet rufous. [172]

Length seven-twentieths of an inch.

Var. a. Reddish-brown; thorax with a paler anterior margin.

An obscurely characterized species, equal in size to *convexus* and *mendica*, but differing from them, besides other characters, in having the lateral elevated line on the posterior margin, and from the former by the conspicuously punctured and less convex thorax.

[A species of *Agriotes*, afterwards described as *A. truncatus* and *A. striatulus* Mels.—LEC.]

10. *E. BASILARIS*.—Deep black; clypeus emarginate; first and second joints of the antennæ and feet pale.

Inhabits Missouri.

Body deep black, hairy, cylindrical, polished, punctured: head subinequal: clypeus broad and subemarginate at tip: antennæ, first and second joints pale rufous; thorax convex, with minute punctures. [1823.]

equally distributed punctures, much more distant than the length of their diameters; lateral edge rectilinear from near the anterior angles to the tip of the posterior angles, which are piceous and rather short: scutel oval: elytra striate, the striæ punctured: feet pale rufous.

Length less than one-fifth of an inch.

[Belongs to *Limonius*.—LEC.]

11. *E. AURIPILIS*.—Above with dense golden hair; clypeus emarginate; antennæ black.

Inhabits Arkansa.

Head covered with golden hair: clypeus emarginate: antennæ black; basal joint rufous: thorax convex, rather narrower at the base, covered with golden hair; a dorsal indented line; posterior angles [173] very short, not excurved, but complying with the curve of the lateral edge: elytra less densely covered with golden hair, excepting at the base; with punctured striæ: beneath black, covered with very short prostrate somewhat silvery hair: feet dull rufous.

Length two-fifths of an inch.

I have seen but a single specimen, which was brought from the Arkansa by Mr. Thomas Nuttall. The hair is much more yellow and less dense than that of *E. pennatus* Fab.

[Also a *Limonius*.—LEC.]

12. *E. ABBREVIATA*.—Black, hairy, short; thorax convex, with an impressed longitudinal line; clypeus rounded.

Inhabits Missouri.

Body short, thick, punctured, hairy: head with profound but dilated punctures; clypeus regularly rounded at tip, and not emarginate each side: antennæ black, basal joint piceous: thorax convex; an impressed longitudinal line from base to tip; punctures numerous, profound, small; posterior angles slightly excurved, carinated; posterior margin with a slight carina near the posterior angle: elytra with profound striæ not perceptibly punctured; interstitial lines hardly punctured: feet testaceous.

Length less than one-fourth of an inch.

A short, dilated species; the impressed line of the thorax extends the whole length of that part of the body; the antennæ are black.

[A species of *Cryptohypnus*, afterwards described as *C. silaceipes* Germ.—LEC.]

13. *E. BISECTUS*.—Testaceous; head, thoracic line, and suture black.

Inhabits Missouri.

[174]

Body densely hairy; punctured; rufo-testaceous: head black; clypeus prominent; rounded: antennæ pale: thorax with a longitudinal, dorsal, black line; posterior angles prominent, excurved: scutellum black, convex, rounded: elytra, striae indented; punctures rounded; suture with a common black line, not attaining the tip, dilated at the scutellum and at its extremity: postpectus and venter black: feet whitish.

Length one-fourth of an inch.

[A *Monocrepidius*, unknown to me.—LEC.]

14. *E. CORTICINUS*.—Reddish-brown, hairy, punctured; clypeus prominent; rounded; lateral thoracic edge rectilinear.

Inhabits the United States.

Elater corticinus Knoch in Melsh. Catal.

Body reddish-brown, hairy, punctured: clypeus prominent; rounded, or very obtusely subangulated before, and each side: antennæ longer than the thorax: thorax, hair each side behind the middle prostrate inwards towards the middle; lateral edge perfectly rectilinear from the anterior tip to the tip of the posterior angles; basal margin with an obsolete indented line: elytra striate, punctured: beneath covered with short, prostrate hair: feet rather paler.

Length about three-fifths of an inch.

Remarkable for the perfectly rectilinear lateral edges of the thorax, and by having the hair of the posterior part of the thorax inclining inwards from each side towards the middle of the width.

[A species of *Cratonychus*.—LEC.]

15. *E. SEMIVITTATUS*.—Piceous-black; thorax obsoletely testaceous each side: elytra whitish, with a dusky suture and abbreviated line.

[175]

Inhabits Missouri.

Body hairy, punctured, dark piceous or blackish brown: thorax with an impressed dorsal line; lateral margin as far as beneath.

hind the middle, obsoletely testaceous; posterior angles excurved; elytra whitish; suture and line from the humerus to the middle of the disk, reddish-brown obscure: beneath piceous: feet paler.

Length less than two-fifths of an inch.

This species, at first sight, resembles *E. nigricollis* of Melsheimer's Catalogue; but it may be readily distinguished by the bicolored thorax, and the abbreviated and sometimes interrupted line on the elytra.

[Unknown to me.—LEC.]

16. *E. LOBATUS*.—Pale brownish, covered with short hair; feet whitish, penultimate tarsal joint elongated beneath the terminal one.

Inhabits Mississippi.

Body brownish, covered with dense prostrate hair: clypeus broad, rounded before: antennæ pale rufous: thorax very minutely punctured; posterior angles prominent, acute, subcarinate above: scutel convex: elytra with profound, punctured striæ, punctures oblong, approximate: feet pale, yellowish-white; penultimate tarsal joint elongated and expanded beneath the terminal joint, and very obtusely rounded at tip.

Length eleven-twentieths of an inch.

This species is sufficiently remarkable by the singular expansion of the penultimate tarsal joint. It [176] is an inhabitant of Pennsylvania as well as of the Western States.

[Previously described as *E. lividus* Degeer, belongs to *Monocrepidius*.—LEC.]

17. *E. NIGRICOLLIS*.—Black; elytra whitish.

E. nigricollis Melsh. Catal.

Inhabits the United States.

Head and thorax black, punctured, somewhat hairy; posterior angles carinate above: scutel black: elytra whitish or pale testaceous, with punctured striæ: feet rufous.

Length from two-fifths to nine-tenths of an inch.

Var. a. Suture and tip of the elytra black.

Specimens occurred on the Missouri.

[The variety is *E. linteus* Say.—LEC.]

18. *E. CYLINDRIFORMIS*.—Obsoletely metallic; antennæ compressed; thorax with an impressed line.

Inhabits the United States.

E. cylindriciformis Knoch in Melsh. Catal.

Body subcylindric, slightly metallic, hairy, punctured: head confluent punctured: a prominent edge above the antennæ, which disappears before; blackish-brassy: antennæ rufous, compressed, longer than the thorax: thorax blackish, tinged with brassy or violaceous; punctures profound, subequally distributed; an indented longitudinal line obsolete on the anterior margin; posterior angles prominent, excurved, slightly carinated: elytra with equally distributed hairs; dusky reddish-brown with a slight brassy tinge, and with punctured striæ; interstitial lines with minute punctures furnishing hairs: beneath black, polished: feet and caudal margin rufous.

Length nine-twentieths of an inch.

This insect is not uncommon: it may be distinguished [177] from *E. metallicus* of Melsheimer's Catalogue by its much less dilated form of body.

[Belongs to *Limonius*.—LEC.]

19. *E. SANGUINIPENNIS*.—Black; elytra sanguineous; tarsi piceous.

Inhabits the United States.

Elater sanguineus Melsh. Catal.

Body black, polished, punctured: antennæ, second and third joints obscure rufous: elytra sanguineous, striate; interstitial lines punctured: tarsi piceous.

Length three-tenths of an inch.

This species approaches *E. sanguineus* Lin. I found a specimen in the State of Illinois, and it occurs occasionally in Pennsylvania.

20. *E. RUBRICOLLIS*.—Black; vertex and thorax rufous; elytra striated.

Inhabits the United States.

Elater rubricollis Melsh. Catal.

Body black, punctured vertex obsoletely rufous: antennæ, second joint rufous: thorax rufous, edged with black: posterior spines black; a slightly impressed longitudinal dorsal line: elytra striate; interstitial lines convex, punctured: postpectus, disk 1823.]

obsoletely rufous: venter, with an interrupted obsolete rufous line on each side.

Length eleven-twentieths of an inch.

An inhabitant of Pennsylvania, which I also found in the State of Illinois. [178]

LYCUS Fab.

1. *L. TERMINALIS*.—[Ante, 1, 45.]

2. *L. SANGUINIPENNIS*.—[Ante, 1, 45.] [179]

LAMPYRIS Lin.

1. *L. NIGRICANS*.—Brownish-black; thorax with a rufous spot each side within the margin.

Inhabits the United States.

Lampyrus nigricans Knoch in Melsh. Catal.

Mandibles piceous: antennæ compressed, very slightly serrated: thorax with a rufous oblong-oval spot each side, which does not attain either the anterior or basal edges; margin uninterrupted; disk black, elytra minutely scabrous, with about two obsoletely elevated lines: pectus with two rufous spots corresponding with those of the thorax.

Length less than one-fourth of an inch.

Var. a. Larger and deeper black.

Length three-tenths of an inch.

Differs from *corrusca* in being much more oblong, much smaller, the thoracic spots never attaining the edge of the thorax in any part. The variety is found on the Missouri.

[Belongs to *Photinus* as amended by Lacordaire, Gen. Coleop. 4, 321.—LEC.]

CANTHARIS Lin. Fab.

1. *C. MODESTUS*.—Black; front, feet, and margin of the thorax, yellowish; elytral margin and suture pale; second joint of the antennæ as long as the third.

Inhabits Missouri. [180]

Body black; face, first joint of the antennæ, and base of the palpi yellowish: clypeus at tip dusky: thorax quadrate; anterior angles rounded: posterior edge and dilated lateral margin yellowish-rufous: elytra slightly and obtusely scabrous, somewhat

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polished; margin and suture whitish: wings black: feet and pectus yellowish-rufous: venter, posterior edge of the segments and lateral edge, yellowish: nails armed with a robust tooth beneath the tip.

Length three-eighths of an inch.

We have several species of this genus, which, in common with the individual above described, have a very distinct and robust tooth beneath the terminal nails of the tarsi. This character will serve as the basis of a very convenient division of the genus.

[A species of *Podabrus*.—LEC.]

2. *C. ANGULATUS*.—Black; thorax rufous on the lateral margin.

Inhabits the United States.

Body black, not distinctly punctured: antennæ, second joint half as long as the third; thorax, anterior and posterior angles equally rounded; lateral margin dull rufous: elytra obtusely scabrous, or with dilated, confluent, slightly impressed punctures: nails with a robust tooth, or angle beneath.

Length one-fourth of an inch.

Var. a. Base of the antennæ, mouth, and tibia, dirty rufous.

Differs from *C. diadema* Fab., which I suppose to be synonymous with *C. angusticollis* Hellw. in Melsh. Catal., in being smaller in the proportions of the second and third joints of the antennæ, &c.

[A true *Telephorus*.—LEC.]

[181]

3. *C. BASILARIS*.—Blackish; thorax rufous, with a black spot; elytra, margin, tip, and suture, yellowish.

Inhabits the United States.

Cantharis Pennsylvanica Knoch in Melsheimer's Catalogue.

Head black, confluent punctured: before the antennæ a pale spot: antennæ, joints pale at their bases: thorax short, transverse, rufous; a large black spot on the middle, which often attains the anterior and posterior edges; anterior edge rectilinear, not arquated: elytra minutely and confluent punctured; a yellow exterior margin, suture, and tip: beneath brownish-black: pectus and thighs pale: postpectus and venter generally with the segments edged with pale.

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Length from two-fifths to more than half an inch.

One of our largest species. As it is very distinct from the *Pennsylvanicus* of Degeer, I take the liberty of changing the name given by Professor Knoch.

[Also a *Podabrus*.—LEC.]

4. *C. FRAXINI*.—Entirely brownish-black, immaculate.

Inhabits the United States.

Necydalis fraxini Melsh. Catal.

Body black: head, a spot before the eyes, and mandibles, yellowish: palpi piceous: thorax with a minute angle at the basal angles: elytra obtusely scabrous, or with dilated, confluent, slightly impressed punctures, forming irregular transverse lines: feet blackish-brown.

Length nearly one-fourth of an inch.

[A *Telephorus*, afterwards described by me as *T. nigrita*.—LEC.] [182]

5. *C. RUFIPES*.—Black; thorax margined with rufous; elytra with a pale margin and suture.

Inhabits the United States.

Cantharis rufipes Melsh. Catal.

Body black: head, spot before the eyes and mandibles yellowish: palpi pale piceous-brown: thorax with a much dilated rufous lateral margin: elytra with a pale yellowish exterior margin, tip, and suture: feet pale yellowish: thighs in the middle black.

Length one-fourth of an inch nearly.

Var. a. Exterior margin of the elytra only, yellowish.

[Also a *Telephorus*.—LEC]

6. *C. BILINEATUS*.—Rufous; elytra black; thorax with two black lines.

Inhabits the United States.

Cantharis marginalis Knoch in Melsh. Catal.

Body pale rufous: head a band between the eyes, antennæ, excepting the basal joint, and palpi, black: thorax with two parallel abbreviated dilated black lines: elytra black; exterior basal margin pale: postpectus behind the intermediate feet black: tibia and tarsi black.

Length seven-twentieths of an inch.

I change the name, as that of Knoch has been previously employed for a different species.

[Also a *Telephorus*.—LEC.]

MALACHIUS Latr.

1. *M. TRICOLOR*.—[Ante, 1, 107.] [183]
2. *M. NIGRICEPS*.—[Ante, 1, 108.] [184]
3. *M. NIGRIPENNIS*.—[V. M. *otiosus*, ante, 1, 109.]
4. *M. VITTATUS*.—[Ante, 1, 108.] [185]
5. *M. CIRCUMSCRIPTUS*.—Black; thorax rufous each side; elytra margined with yellow.

Inhabits Missouri.

Body black; region of the mouth and basal joints of the antennæ beneath pale; thorax rosaceous, with a dilated spot attaining both extremities: elytra margined all around, excepting at base, with yellow: thighs pale at base: venter, segments edged with whitish.

Length less than three-twentieths of an inch.

[Belongs to *Anthocomus*.—LEC.]

6. *M. BIPUNCTATUS*.—[Ante 1, 107.] [186]

PTILINUS Fabr. Latr.

1. *P. RUFICORNIS*.—Black; antennæ, tibia, and tarsi, rufous; antennæ with much elongated processes.

Inhabits Kentucky.

Body black, immaculate, rugose with minute, slightly elevated, acute tubercles; head with a very slightly elevated longitudinal line on the vertex: eyes black-brown: antennæ, the processes very much elongated and the joints short; rufous: tibia and tarsi rufous: elytra with numerous impressed punctures, which are irregular near the base, and hardly arranged into striæ near the tip: thorax convex, elevated.

Length three-twentieths of an inch.

2. *P. SERRICOLLIS*.—Blackish; elytra chestnut, sericeous; feet pale.

Inhabits Missouri.

Blackish-brown, sericeous, punctured: head with minute, tubercles: eyes deep black: antennæ pale rufous; seven second an-
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terior processes, each one longer than its respective joint; palpi whitish: thorax slightly convex, deflected at the anterior angles; basal edge sinuate, minutely dentate, and with three small salient angles over the scutel; posterior lateral angles acute: scutel distinctly cordate: elytra rather pale chestnut-brown, with slightly impressed punctured striæ: beneath rufous: pectus each side black.

Length one-fourth of an inch.

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ANOBIUM Fab.

A. CARINATUM.—Brown; thorax carinate behind; elytra punctate striate.

Inhabits Mississippi.

A. pertinax Melsheimer's Catalogue.

Body brown: eyes black: antennæ and palpi rufous: clypeus, labrum, and base of the mandibles, piceous; the latter tipped with black: thorax declivous towards each margin; carinate behind, with an impressed line terminating at the carina; carina dilated and bifid near the middle of the back; an oblique obsolete abbreviated line near the posterior angles; lateral edge about half as long as the central diameter: scutel rounded at tip: elytra profoundly striate; striæ obtuse, punctured: punctures transverse, dense: beneath blackish-brown.

Length more than one-fourth of an inch.

Found on the Mississippi above the mouth of the Ohio. This species approaches *A. pertinax* Fab., but (as Mr. J. F. Melsheimer, in a letter to me, remarks) it is longer, the thorax differently formed, and always destitute of the fulvous spots sometimes so remarkable in the European specimens.

ENOPLIUM Latr.

1. *E. MARGINATUM*. [Ante 1, 89.] [188]

2. *E. THORACICUM*. [Ante 1, 90.]

3. *E. 4-PUNCTATUM*. [Ante 1, 90.] [189]

TRICHODES Fab.

CLERUS Latr. Leach.

1. *T. ORNATUS*.—Brassy-blackish; elytra with a humeral spot and two bands pale yellow.

Inhabits Arkansa.

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Body dark brassy, slightly varied with a tinge of violaceous and bluish; hairy: antennæ and palpi rufous: elytra somewhat rugous, impunctured; a large, somewhat irregular spot exterior to the middle of the base, and including a humeral black oval spot; a small longitudinal oval spot before the middle; an oblique band on the middle hardly attaining the suture, and another oblique band before the tip also hardly attaining the suture, pale yellow: tarsi dark rufous.

Length seven-twentieths of an inch.

Found near the Rocky Mountains.

[190]

CLERUS Fabr.

1. *C. ROSMARUS*.—Rufous; elytra with black and yellowish bands; rufous at base; feet and abdomen black; head immaculate.

Inhabits the United States.

Clerus rosmarum Knoch in Melsh. Catal.

Body rufous, punctured, hairy: head immaculate: eyes deep black: antennæ dusky at tip: elytra rufous at base; a black band, before the middle, sometimes wanting or obsolete; a yellowish-white band on the middle, covered with whitish hair, and pointing backwards at the suture; a dilated black band behind the middle; and a pale rufous tip, covered with pale rufous hair: tibia and venter deep black.

Length one-fourth of an inch nearly.

Observed in the State of Ohio. It also occurs in the Atlantic States. The tip of the elytra, as well as the band of the middle is of the same color with the hair which covers it.

2. *C. NIGRIFRONS*.—Rufous, elytra with black and cinereous bands, and rufous base: postpectus, venter and frontal spot, black.

Inhabits the United States.

Body rufous, hairy; punctures indistinct: head with a black spot between the eyes; eyes black: antennæ and palpi blackish-piceous: elytra with a rufous base, occupying more than one-third of the length; a very narrow black band before the middle; [191] a narrow whitish band on the middle covered with cinereous hair, and curving backward at the suture; a dilated black band behind the middle; tip black, covered with cinereous
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hair which conceals a whitish spot, sometimes wanting: feet, postpectus, and venter, deep black.

Length about one-fourth of an inch.

It inhabits the Atlantic States, and I have also observed it on the Ohio.

3. *C. NIGRIPES*.—Rufous; head immaculate; feet black; elytra rufous at base, and with black and cinereous bands.

Inhabits the United States.

Body pale rufous: head immaculate; eyes, antennæ, palpi, and tips of the mandibles, black: elytra with a rufous base occupying more than one-third of the length; a very narrow black band before the middle, a narrow whitish band on the middle, covered with cinereous hair, and curving backward at the suture; a dilated black band behind the middle; tip black, covered with cinereous hair, which conceals a whitish spot which is sometimes wanting: feet black.

Length less than one-fourth of an inch.

This species is very similar to the preceding, and differs in having a rufous postpectus and venter, and immaculate front. It also resembles *Clerus dubius* Fab., but differs from it, if I am not mistaken in that species, by being much smaller; and besides other differences, by the central band of the elytra curving backward, and not towards the head, as in *dubius*. [192]

4. *C. HUMERALIS*.—Black; humerus with a large rufous spot.

Inhabits the United States.

Body black, hairy; head greenish-black; antennæ pale, the three terminal joints forming an oval mass: palpi pale: thorax greenish-black, dilated each side before the middle into a very obtuse tubercle: elytra violaceous black, with dilated confluent punctures; a large humeral rufous spot: anterior tibia either entirely or only on the inner edge rufous.

Length from more than three-twentieths to one fifth of an inch.

From Missouri; and is also an inhabitant of the Atlantic States.

[Belongs to *Hydnocera*.—LEC.]

SILPHA Fab. Latr.

1. *S. CAUDATA*.—Black; with short cinereous hair; elytra sinuate at tip, three elevated lines and intermediate series of tubercles.

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Inhabits Missouri.

Body black, above opaque and covered with dense very short prostrate cinereous hair: thorax with a few blackish dots which are not elevated: scutellum with two large obsolete dark spots, lateral edge piceous: elytra with sparse shorter hairs than the thorax; three longitudinal elevated acute lines, on each of which the exterior one is shortest, and the interior one is sinuated at tip; interstitial lines with a series of elevated tubercles; tip sinuate.

Length more than half an inch.

[193]

Found by Mr. Thomas Nuttall on the Upper Missouri, and by myself near the Rocky Mountains. It is closely allied to *Silpha sinuata*, but the thorax is destitute of elevations.

[Identical with the European *S. lapponica*.—LEC.]

2. *S. RAMOSA*.—Black; elytra with three elevated branched lines.

Inhabits Missouri.

Body black, confluent punctured, immaculate, dilated: thorax destitute of elevations: elytra, with three longitudinal elevated lines; with numerous small lateral branches, which pass over the interstitial spaces; interstitial spaces minutely scabrous, with elevated points.

Length more than three-fifths of an inch.

Next in magnitude to *americana* Fabr., but more closely related to *inequalis*, from which it is at once distinguishable by the branched lines of the elytra. Found by Mr. Thomas Nuttall on the Upper Missouri.

3. *S. TRUNCATA*. Elytra smooth; truncate at tip.

Inhabits Arkansas.

Body oblong, blackish-brown; numerous minute punctures, furnishing short black hairs: thorax plane; an oblique impressed line each side; basal edge profoundly sinuated: elytra dark reddish-brown; shorter than the abdomen; transversely truncate at tip; the exterior angles rounded; surface entirely destitute of elevated lines; a transverse slight elevation on the submargin behind the middle.

Length three-fifths of an inch.

I found but a single specimen of this insect near [194] the 1823.]

Rocky Mountains. Its elytra are truncated like those of the *Necrophagi* [*Necrophori*]. It belongs to Wilkins' genus *Necrodes*.

CATOPS Payk.

C. BASILARIS.—Black, covered with very short, yellowish hair; elytra, brown, paler at base.

Inhabits Missouri.

Body black, covered with numerous short yellowish hairs: eyes fuscous: antennæ blackish; two basal joints yellowish-white; eighth joint very small, transverse, shortest; preceding and three terminal joints largest, the latter somewhat piceous: thorax transverse-quadrate, convex, rather narrower before; lateral edge regularly arquated; basal and anterior edge subrectilinear; angles rounded: scutel triangular: elytra brownish, paler at base; a distinct subsutural impressed line: labrum and palpi pale piceous: beneath blackish piceous; feet dark piceous.

Length fourteen-hundredths of an inch.

Found under wood at Engineer Cantonment on the Missouri.

CERCUS Latr.

1. *C. PALLIPENNIS*.—Black; elytra pale, testaceous.

Inhabits Arkansa.

Body deep black, punctured; numerous short yellowish hairs: antennæ, pale, rufous: elytra, pale, testaceous, immaculate, transversely truncated at tip: [195] tergum, two terminal joints equal in length: feet and venter pale rufous.

Length less than three-tenths of an inch. Taken near the Rocky Mountains.

[A species of *Carpophilus*, afterwards described as *C. floralis* Er. The size given is erroneous, it should be three-twentieths. —LEC.]

2. *C. NIGER*.—Black, punctured, hirsute; mouth, antennæ and feet, yellowish red.

Inhabits the United States.

Nitidula nigra Melsh. Catal.

Body short, oval, brownish-black, hirsute, punctured; hairs very short, yellowish; punctures dilated, dense: head confluent punctured, punctures small: labrum piceous: antennæ piceous, third joint but little longer than the second; clava

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dusky with pale hair: thorax much wider at base; anterior angles rounded, posterior ones acutely and prominently angulated, with an indented oblique line above; punctures dilated: scutel rounded at tip, base punctured, tip impunctured: elytra covering half of the abdomen, truncate or very obtusely rounded at tip; punctures dilated, distinct, forming regular, approximate series: feet yellowish-red, ciliate.

Length about three-twentieths of an inch.

Inhabits Missouri and Pennsylvania.

[Also a *Carpophilus*.—LEC.]

ENGIS Fabr.

1. *E. CONFLUENTA* [CONFLUENS].—Black; elytra testaceous, apex and about three spots on each black; margin black.

Inhabits Missouri.

Head, thorax and scutel black, punctured; elytra yellowish or testaceous; apex black; exterior edge undulated with black; a common line at base about [196] one half the length of the suture, with a small lateral spot; humerus, and larger spot on the middle of each elytron communicating with the margin, black.

Length more than one-fifth of an inch.

This species was found by Mr. Thomas Nuttall.

[A species of *Ips*, afterwards described as *I. Dejeanii* Kirby, and *I. sepulchralis* Randall.—LEC.]

2. *E. HEROS*.—Black; elytra bifasciate with rufous, the anterior band with an angular black spot.

Length three-fourths of an inch.

Body black; thorax slightly punctured at the anterior angles, and with dilated confluent punctures in the indented basal lines: elytra impunctured with two broad rufous undulated bands, interrupted at the suture; basal band broadest, with an angular black spot near the humerus, and a common transversely oblong-quadrate black spot behind the scutel.

It occurs on the Missouri, and is a fine insect, probably one of the largest of the genus. In the colors and form of body it most strikingly resembles *E. fasciata* Fabr., but it is much larger, and there is not the slightest appearance of punctures on the elytra; the humeral black spot is angular, and its anterior angle is extended towards the humeral angle; the basal portion of the 1823.]

basal band is extended very near to the scutel, so as the more completely to inclose the transverse black spot. In the *fasciata* the elytra are distinctly punctured in striæ, the humeral spot is orbicular, and the basal portion of the basal band does not extend towards the scutel further than the middle of the base. In the Philadelphia Museum is a fine specimen of this insect, which was probably caught in Pennsylvania.

[Belongs to *Dacne*.—LEC.]

[197]

BYTURUS Latr.

B. UNICOLOR.—Reddish-yellow, hairy; thorax each side depressed; tergum dusky.

Inhabits Arkansa.

Eyes black; thorax, posterior angles broadly depressed and slightly reflected, the depression continued on the side, but narrowed towards the anterior angles; wings dusky.

Length three-twentieths of an inch.

This species is most closely allied to *B. tomentosus* of authors. A single specimen was brought from the Arkansa by Mr. Nuttall.

DERMESTES Linn. Latr.

D. MARMORATUS.—Marbled with blackish-brown, and cinereous or ferruginous hair, with a large cinereous humeral spot.

Inhabits the United States.

Antennæ reddish-brown: thorax indented before the scutel: pectus blackish: postpectus and coxæ with dense white hair: feet blackish; intermediate and posterior thighs with a white band before; spot on the lateral basal margin of the elytra, large, angular: venter with dense white hair; anal segment and lateral spots black-brown.

Length from three-tenths to nine-twentieths of an inch.

This insect is of frequent occurrence in Missouri and Arkansa, and is a large species.

[198]

SCAPHIDIUM Fabr.

1. S. 4-GUTTATUM.—Black; thorax with an undulated series of large punctures; elytra with four rufous spots, anterior one panduriform.

Inhabits the United States.

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Scaphidium 4-guttatum Knoch in Melsh. Catal.

Body black: head with minute obsolete punctures; mouth and base of the antennæ piceous: thorax obsoletely punctured: an indented undulated transverse line of large profound punctures at base; elytra with a series of dilated profound punctures at base, abbreviated at the humerus; an impressed subsutural slightly crenated stria; two or three obsolete much abbreviated series of punctures near the middle, and two rufous spots, of which one is subbasal, transverse, panduriform, originating at the exterior edge and extending more than half across the elytron; the other spot subterminal, obtusely lunate.

Length one-fifth of an inch nearly.

Var. a. Elytra spots obsolete.

2. S. 4-PUSTULATUM.—Black; thorax with an undulated series of large punctures; elytra with four rufous obtusely lunate spots.

Inhabits the United States.

Scaphidium 4-pustulatum? Knoch in Melsh. Catal.

This species is similar to the preceding, excepting that the anterior elytral spot is very obtusely lunate, being emarginate only on the anterior side, a character [199] which, as far as my observation has extended, is invariable.

HETERO CERUS Bosc. Fabr.

1. H. PALLIDUS.—Thorax livid-brown, margin whitish; elytra whitish, lineate, and spotted with dusky.

Inhabits Missouri.

Head dark livid: clypeus paler, transverse-quadrate, truncate before: labrum prominent: eyes black: antennæ whitish: mandibles elongated, slightly arcuated; exterior base deeply ciliated; a slight tooth and emargination before the middle; inner edge bidentate near the tip; posterior tooth small: scutellum long, triangular, minute: elytra whitish, slightly striated; striae near the suture obsoletely dusky; three undulated, dilated, obsolete, dusky bands: feet white; anterior pair dilated, compressed, and furnished on the exterior and rounded tip with about thirteen prominent spines; spines of the posterior pairs of feet less robust: pectus and venter pale yellowish or whitish.

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Var. a. Dusky; the bands occupy nearly the whole surface of the elytra, leaving only a few obsolete whitish spots.

Length rather more than one-fifth of an inch.

Very common on the Missouri. Near Engineer Cantonment I observed a great number of this species in October, flying in the evening, near a sand bar. I obtained a different species, a few years since, on Senipuxten, eastern shore of Maryland. [200]

2. *H. PUSILLUS*.—Dark reddish-brown impunctured, hairy, hairs short, rather rigid, reflected, whitish: eyes pale reddish-brown: beneath blackish; carina of the pectus piceous: thighs reddish-brown.

Length less than one-tenth of an inch.

This species was obtained on the shores of the Missouri river below the entrance of the Platte.

[H]ELOPHORUS.

E. LINEATUS.—Greenish; thorax with five longitudinal impressed lines; elytra grayish.

Elophorus griseus? Herbst in Melsh. Catal.

Head rugose with approximate elevated punctures, and tinged with bright green: eyes black: antennæ pale testaceous; clava dusky pubescent: palpi pale testaceous, dusky at tip: mandibles varied with purple and green above: thorax greenish, sometimes varied with cupreous; rugose, with approximate elevated punctures; transverse-quadrate; anterior angles advanced, posterior ones acute; lateral edge excurved near the base; disk with five, equidistant, longitudinal, strongly impressed lines; scutel minute suborbicular, cupreous: elytra yellowish-gray or whitish-testaceous; striate, striæ with dilated, transverse punctures; pectus reddish yellow: postpectus and venter dusky: feet pale testaceous.

Length less than three-twentieths of an inch.

Found in the river near Engineer Cantonment.

The name of *griseus* has been applied to another species. It is a native also of the Atlantic States. [201]

HYDROPHILUS Fab.

1. *H. TRIANGULARIS*.—Olivaceous-black; postpectus and sides of the venter with dull yellowish hair.

Inhabits the United States.

Hydrophilus ater? Melsh. Catal.

Body elongate-oval, black, tinged with olivaceous: head with two diverging frontal series of impressed punctures; punctures before the eyes and on the orbits: antennæ, palpi and suture of the clypeus yellowish: thorax with a few punctures each side, and an abbreviated oblique series of punctures each side before the middle: elytra, each with four series of punctures, the exterior one double: beneath black: pectus with very short dense yellowish hair before; a bifid prominence for the reception of the anterior tip of the sternum: postpectus covered by short dense yellowish hair: sternum grooved before, rounded at the anterior tip, and elongated, subulate, perfectly rectilinear behind: abdomen glabrous, with a triangular marginal spot of short yellowish hair on each segment.

Length from one and one-fifth to one and two-fifths of an inch.

I think this a different species from the *H. ater* of Oliv., inasmuch as no notice is taken, in the description of that insect, of lateral ventral triangles which are so conspicuous in our specimens. It is also a more elongated insect than Olivier's figure represents the *ater* to be; in this respect approaching [201] much nearer to his figure of *oblongus*, which, however, is said to have ferruginous thighs, and a but slightly canaliculated sternum.

In a certain light, the elytra appear, under a lens, to be marked by seven or eight capillary reddish lines. It is rather rare in Pennsylvania, but I obtained several specimens near the Rocky Mountains.

2. *H. OBTUSATUS*.—Black, convex, rounded behind; sternum with a slight prominence at the anterior tip.

Inhabits the United States.

Hydrophilus carabæoides Melsh. Catal.

Body oblong-oval, convex, black: head, a lunate indented line of confluent punctures before the eyes on each side; orbits punctured: palpi and base of the antennæ, dark rufous: thorax with a very much abbreviated line of impressed punctures each side before the middle, and a few lateral punctures: elytra very obtusely rounded behind; four series of punctures furnishing minute hairs, the outer one double: beneath sericeous, with minute yellowish hairs: pectus, prominence not bifid; sternum narrow and not canaliculate before,
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slightly emarginate near the anterior tip; posterior moiety a little flattened, with an impressed line; posterior tip rounded and hardly extending beyond the base of the postpectus: feet dark piceous.

Length from three-fifths to thirteen-twentieths of an inch.

This species, which is found equally in Pennsylvania and on the Missouri, is certainly very closely allied to the *H. caraboides* of Fabr. The venter as [202] well as the postpectus of this species has a silky appearance in a certain light, occasioned by its minute dense hairs. The posterior termination of the body is more obtusely rounded than the head.

[Belongs to *Hydrochares*.—LEC.]

[203]

3. *H. NIMBATUS*.—Black; head, thorax and elytra margined with yellowish.

Inhabits the United States.

Hydroph. nimbatus Knoch in Melsh. Catal.

Head, two diverging punctured lines; margin yellowish; labrum, margin yellowish: palpi and base of the antennæ yellowish: thorax, a much abbreviated impressed oblique line each side before the middle, and another rather longer one on the middle of the lateral submargin; lateral margin and anterior edge yellowish-white: elytra minutely punctured; lateral margin yellowish-white; beneath black, sericeous with dull yellowish hairs; feet pale: thighs black at base: tarsi dusky: pectus with a bifid prominence: sternum pale, a little dilated before the intermediate feet; punctured; somewhat scabrous near the anterior tip; behind the intermediate feet attenuated, with a slightly impressed line; posterior tip elongated, acute: venter, terminal segments with a rufous spot each side.

Length about two-fifths of an inch.

A very pretty species and not uncommon.

[*Hydrophilus lateralis* Fab., is an older name of this species.—LEC.]

SPÆRIDIDIUM Fab.

S. APICALIS [APICALE].—Obscure, piceous; head black; elytra pale at tip.

[204]

Body blackish-piceous, punctured, glabrous, oval: head equal, deep black; punctures minute, distinct, dense: antennæ piceous; clava obconical, black; maxillary palpi pale piceous, blackish at

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tip; thorax angles acute; punctures minute, subequidistant: scutell oblong-triangular, acute: elytra with nine punctured striæ; exterior stria abbreviated at the middle; punctures equal, equidistant; tip and posterior outer margin pale reddish-yellow: feet piceous, blackish at base; anterior tibia with two robust spines at tip, and spinose cilæ on the exterior edge.

Length three-fortieths of an inch.

Found at Engineer Cantonment.

[Belongs to *Cercyon*.—LEC.]

COPRIS Geoff. Latr.

1. *C. ANAGLYPTICUS*.—Thorax trituberculate; head horned. Inhabits the United States.

Scarab. anaglypticus Knoch in Melsh. Catal.

Body black, punctured: clypeus emarginate at tip; horn as long as the clypeus, slightly recurved, simple; punctures confluent: thorax three tuberculate, densely punctured on every part; tubercles placed in a transverse series, the intermediate one transverse and profoundly emarginate; a longitudinal obsolete impressed line above; a transverse indented cavity or puncture each side, beneath which is an oblique elevated line confluent anteriorly with the edge of the thorax; anterior angles emarginate: elytra with profound, [205] indented, crenate, dilated striæ; interstitial spaces, punctured.

Length seven-twentieths of an inch.

This insect appears to be a general inhabitant of the United States; it is not unfrequent on the Upper Missouri and on the Arkansa.

It is closely allied to *Copris lunaris* and *emarginatus*, but may be distinguished from either by the punctured interstitial spaces of the elytra. It seems also related to *C. Ammon*, but Olivier attributes to that insect the size only of *Sinodendron cylindricum* which is certainly less than half the magnitude of our insect. It also resembles the *Janus* of Panzer, but is much larger.

The thoracic tubercles of the female are almost obsolete, and the horn of the head is transverse and much shorter than the head, but the other external characters are the same as those of the male.

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2. *C. HISTEROIDES*.—Dark cupreous; clypeus emarginate; antennæ yellowish.

Inhabits the United States.

Scarbæus histeroides Knoch in Melsh. Catal.

Body punctured; above dark cupreous; beneath blackish-cupreous: clypeus with the punctures obsolete behind, and more distinct before; an impressed line from the anterior canthus of the eye to the lateral edge; anterior edge bidentate, teeth slightly elevated and separated by an emargination: antennæ yellow: thorax with an abbreviated impressed line from the middle nearly to the base, nearly obsolete on the disk and [206] anteriorly; lateral submargin with an impressed dot; lateral edge not angulated; elytra striate; striæ profound, slightly punctured; interstitial lines flat and impunctured; anterior tibia with series of yellowish cilæ; exterior edge four-toothed, the posterior tooth minute or obsolete; terminal spine acute.

Length more than one-fourth of an inch.

This insect, which occurs in Pennsylvania, I also obtained on the Mississippi near Cape Gerardeau.

[Belongs to *Chæridium* and is the same as *Ateuchus capistratus* Fab.—LEC.]

3. *C. TRIANGULARIS*.—Cupreous; head horned; thorax angulated; elytra striated and punctured.

Inhabits Arkansa.

Body dark reddish-cupreous: clypeus reticulate, margined with black; horn as long as the thorax, recurved, black: thorax minutely scabrous, with a depressed triangular plane upon the surface; the lateral angles very prominent; a large submarginal lateral puncture: elytra regularly striate, with impressed slightly punctured lines; interstitial spaces punctured.

Length less than four-fifths of an inch.

This species is somewhat larger than *C. carnifex*, to which it is closely allied, but differs in color, in having an impressed striæ upon the elytra, and punctured interstitial spaces; whereas in *carnifex* the sides of thorax and the elytra are green, and the latter have elevated striæ, and irregular elevated abbreviated lines on the interstitial spaces.

[A species of *Phanaeus*; a variety of it was afterwards described by me as *P. torrens*.—LEC.]

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ATEUCHUS Fabr.

1. *A. NIGRICORNIS*.—Black, minutely scabrous; clypeus six-toothed, incisure of the posterior tooth much less profound than that of the preceding one; anterior tibia three-toothed.

Inhabits the United States.

Body deep black, immaculate, slightly scabrous with elevated points or minute lines; head with cupreous reflexions: clypeus six-toothed; the two anterior teeth more prominent, flattened, conic, slightly recurved; lateral ones smaller, more like serratures; the exterior one much the smallest, and separated from the preceding tooth by a slight incisure: antennæ black; thorax convex, with cupreous reflexions; an obsolete, indented, longitudinal, obtuse line, near the base; posterior edge regularly arquated; lateral edge angulated in the middle; anterior margin profoundly emarginate for the reception of the head; elytra with numerous elevated points, and with obsolete impunctured striæ: anterior tibia dentate upon the exterior edge, the three terminal teeth large.

Length more than one-fourth of an inch.

I observed this species near Cape Gerardeau, and in the intermediate country between that town and the Rocky Mountains; and as I formerly obtained two specimens in New Jersey, I think it probable that it inhabits a principal portion of our country; but it does not seem to be common anywhere. Those I observed in New Jersey were busily engaged in [208] rolling a small pellet of hog dung, which, however, was not shaped in the spherical form.

[This and the two following belong to *Canthon* Ill. (*Coprobius* Latr.)—LEC.]

2. *A. OBSOLETUS*.—Cupreous polished; clypeus bidentate before; elytra obsoletely striated.

Inhabits near the Rocky Mountains.

Body entirely cupreous, polished, immaculate, with very minute punctures: clypeus slightly margined anteriorly with dull green; an oblique, slightly impressed, glabrous line before the eye; edge bidentate before, and with an obsolete remote tooth each side before the eyes: antennæ blackish: thorax a little angulated each side on the edge: elytra obsoletely striated. 1823.]

Length nearly one-fifth of an inch.

This species was obtained on the river Platte near the Mountains. The punctures are so minute as not to be visible, but with the aid of a strong magnifier.

3. *A. EBENEUS* [EBENUS].—Black; clypeus six-toothed; incisure of the posterior tooth as profound as that of the preceding one.

Inhabits Missouri.

Body deep black, immaculate, scabrous, with slightly elevated, very numerous points: clypeus six-toothed; the two anterior teeth hardly more prominent; the fissure separating the posterior tooth more acute, and as profound as that of the preceding tooth: thorax convex; an obsolete, indented, longitudinal, obtuse line towards the base; posterior edge perceptibly projecting into a slight angle in the middle, lateral edge angulated in the middle, and with irregular denticles behind the middle: elytra with [209] obsolete impunctured striæ: anterior tibia with three large teeth.

Length two-fifths of an inch.

This species very much resembles the preceding, from which it is, however, distinguishable by its superior magnitude, by the much more numerous small tubercles with which its surface is overspread, and by the much more profound fissure which separates the two posterior teeth of the clypeus from each other; from this fissure a distinct line passes upwards and intersects a similar transverse line drawn from the inner canthus of the eye, as in many species of this genus.

SCARABÆUS Latr.

S. TRIDENTATUS.—Clypeus with an elevated tridentate line on the anterior submargin.

Inhabits Arkansa.

Body black, punctured: clypeus scabrous; an obsolete elevated abbreviated line in the middle; an elevated transverse tridentate line on the anterior submargin, confluent each side with the lateral reflected edge; tip much narrowed, emarginate, reflected: thorax, punctures generally diffused: scutellum impunctured: elytra with punctured striæ: beneath reddish-brown.

Length three-fifths of an inch.

The maxillæ of this insect are horny, and dentated at tip, but

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the mandibles are short, unarmed, ciliated on the interior and exterior sides, and not [210] prominent; the labrum also is concealed; the labium is conical and prominent, and the tongue is concealed. The extremity of the clypeus has very much the appearance of the labrum, as the elevated and dentated line resembles a reflected termination of the head.

A single specimen was brought from the Arkansa by Mr. Thomas Nuttall.

[Belongs to *Aphonus* Lec. Proc. Acad. Nat. Sc., 8, 21.—LEC.]

GEOTRUPES Latr.

1. G. EXCREMENTI.—Black-bronzed, mutic; an impressed rectangular line on the clypeus.

Inhabits the United States.

Scarabæus excrementi Knoch in Melsh. Catal.

Body above black bronzed, punctured; beneath dark violaceous: clypeus confluent punctured; summit destitute of punctures; three very obtuse slightly elevated tubercles, of which one is above each eye, and consists of a more elevated portion of a raised line, which passes from above the eye to the edge of the clypeus, another tubercle is situated upon the middle; a profoundly impressed, abbreviated, longitudinal line between the eyes, which divaricates anteriorly into two lines that terminate at the tip of the elevated lateral line: thorax densely punctured each side, punctures rare on the dish; an impressed longitudinal obsolete line, from the base to the middle; an indented, obsolete spot on the lateral submargin, distinguished by more dense punctures; elytra profoundly striate, striæ slightly crenate on the inner sides. [211]

Length about eleven-twentieths of an inch.

This species is common in various parts of the United States. It is found in Pennsylvania, and I obtained specimens at Engineer Cantonment, and at Cape Gerardeau.

The tubercles of the head are not more distinct than those of *S. stercorarius*.

It strongly resembles *S. splendidus* of Fabr., *miarophagus* of Knoch, but differs from both in color, and from the latter, which it more closely resembles, by having the thoracic punctures less numerous, not so much dilated or so profoundly impressed; the 1823.]

color of the *miarophagus* is dark piceous above and beneath, the legs are slightly violaceous.

It is very probable that the *excrementi* is allied to the *Blackburnii* of Fab., if not the same.

2. *G. FILICORNIS*.—Rufous; thorax tridentate; clypeus with an elongated horn.

Inhabits Upper Missouri.

Body pale brownish-rufous: clypeus, anterior and lateral margins punctured, entire; horn elongated, linear, slightly recurved and compressed, longer than the greatest breadth of the head: thorax unequal; three tubercles, placed in a transverse series, the exterior ones compressed and longitudinal; intermediate tubercle transverse subemarginate; an indented line behind the middle tubercle, and a concavity each side: scutellum triangular: elytra with punctured striae.

Length one-fourth of an inch.

I obtained it near the Council Bluff on the Missouri. Mr. T. Nuttall obtained specimens on the Arkansa. Belongs to the genus *Odontæus* Megerle. [212]

APHODIUS Illig.

1. *A. BICOLOR*.—Above black; beneath rufous; clypeus widely emarginate.

Inhabits the United States.

Scarabæus bicolor. Knoch in Melsh. Catal.

Body above deep black immaculate, punctured: clypeus densely punctured, with a very slightly elevated, obtuse, obsolete, central tubercle; anterior edge very obtusely and widely emarginated: thorax densely punctured in every part, excepting upon the anterior edge which is of a pale color: elytra profoundly striated, striae crenated; interstitial lines minutely punctured: beneath pale reddish-brown: pectus and antennae blackish: postpectus and venter punctured.

Var. a. Elytra with a few obsolete hardly perceptible rufous spots.

Length one-fifth of an inch.

This insect is not uncommon in various parts of the United States. I have found it in Pennsylvania and near Cape Gerardeau on the Mississippi.

2. *A. STRIGATUS*.—Black, clypeus convex on the disk; feet dark piceous.

Inhabits the United States.

Scarab. strigatus Knoch in Melsh. Catal.

Body deep black, immaculate: clypeus with very minute punctures and larger ones at the base; anteriorly emarginate; middle of the disk convex: thorax with rather large punctures, which are remote on the disk and more numerous each side; posterior angles very obtusely rounded: elytra profoundly [213] striated, striæ punctured; interstitial spaces convex: beneath black: feet piceous towards their extremities.

Length nearly one-fifth of an inch.

Rather a common species; it is found in Pennsylvania and as far west as the Rocky Mountains. It is longer in proportion to its width than *A. terminalis*.

[A species of *Euparia*.—Lec.]

3. *A. TERMINALIS*.—Black, tip of the elytra and feet rufous; clypeus trituberculate.

Inhabits the United States.

Scarabæus stercoreus Melsh. Catal.

Body black: clypeus with numerous distinct approximate punctures; three small tuberculi, placed in a transverse line, the intermediate one rather largest; anteriorly emarginate: thorax punctured, punctures subequal and equally distributed; posterior angles subangulated, not obtusely rounded: scutell slightly elevated into a longitudinal line on the posterior disk: elytra with punctured striæ; interstitial spaces perfectly flat; tip with a large, common, obscure, rufous spot, sometimes obsolete, or divided into two distant ones: beneath blackish: feet rufous blackish at base.

Length more than three-twentieths of an inch.

The term *stercoreus* of Melsh. being preoccupied, I have applied to this species that of *terminalis*. It is readily distinguishable from our other species by the trituberculate clypeus, and the uniformly distributed punctures of the thorax.

4. *A. TENELLA*.—Black; elytra and feet rufous.

Inhabits the United States.

Scarabæus fimetarius Melsh. Catal.

[214]

Body black: clypeus truncate or slightly emarginate at tip: thorax punctured, lateral margins rufous, posterior angles obtusely rounded: scutellum blackish: elytra rufous, immaculate, striate, the striae punctured: interstitial spaces very minutely punctured and but slightly convex: beneath blackish-piceous: feet rufous.

Length more than three-twentieths of an inch.

Var. a. Anterior and lateral margins of the clypeus rufous.

This species is an inhabitant of Pennsylvania, I also obtained specimens of it in the vicinity of Engineer Cantonment on the Missouri. It is certainly not the same with the insect which Fabricius described under the name of *finetarius*, as it is much smaller and the clypeus is not tuberculated. I have therefore adopted a new name for this species

5. *A. CONCAVUS*.—Thorax impunctured on the disk.

Inhabits near the Rocky Mountains.

Body black or rufous; beneath piceous: clypeus very obtusely emarginate before: thorax with rather large distant punctures each side; disk, impunctured; posterior angles very obtusely rounded: elytra, striae punctured; interstitial spaces impunctured, flat: anterior tibia strongly tridentate.

Length three-tenths of an inch.

This species occurred on the Arkansas river near the mountains. It is about equal in size to *A. oblongus*, but will not be readily confounded with that insect, as the disk of the thorax is impunctured, and the edge of the clypeus is unarmed. The lateral thoracic punctures in one specimen are obsolete. [215]

6. *A. OBLONGUS*.—Black punctured; clypeus with two tubercles in the anterior emargination.

Inhabits the United States.

Scarabæus oblongus Knoch in Melsh. Catal.

Body black; beneath blackish-piceous: clypeus punctured, punctures confluent before; anterior edge emarginate and with a prominent acute tooth each side of the emargination; a transverse impressed line between the eyes, which is angulated in the middle: thorax punctured: elytra with punctured striae, and very minute punctures in the interstitial spaces.

Length three-tenths of an inch.

This species appears to be common to most parts of the United States.
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States. I have found it in Pennsylvania and near the Rocky Mountains. It is readily distinguished from our other species of the genus by the bidentate anterior edge of the clypeus and striate elytra.

7. *A. FEMORALIS*.—Blackish; margins of the elytra and of the thorax pale.

Inhabits Missouri.

Clypeus blackish-brown, minutely punctured, anteriorly emarginate: thorax with small punctures, which are rather more numerous each side; lateral margins dull yellowish-white, with a dusky dot: scutel black: elytra profoundly striated; striæ dilated and transversely punctured; interstitial spaces convex, narrow; color dirty yellowish-white, with a dusky, common disk: beneath dark piceous: thighs pale, yellowish-white.

Length less than one-fifth of an inch.

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Var. a. Pale margin of the thorax narrow and destitute of the dusky spot.

Found in considerable numbers on human excrement, at the Pawnee villages.

[Continuation, pp. 238—282.]

TROX Fab.

1. *T. CAPILLARIS*.—Clypeus rounded at tip, not reflected, elytra tuberculated.

Inhabits Upper Missouri.

Body cinereous-fuscous: clypeus with two elevated, obtuse tubercles; tip rounded; edge not reflected: thorax inequal, canaliculate, minutely hispid; posterior angles acute: scutel not contracted at base or middle: elytra with elevated, subacute, reflected tubercles placed in regular series, which are alternately smaller and separated by elevated capillary lines: punctures obsolete: beneath black: anterior tibia two-toothed, the terminal one emarginated.

Length seven-twentieths of an inch.

The clypeus of this insect is not angulated, nor reflected before 1824.]

fore ; and the slightly elevated, acute or capillary, longitudinal, interstitial lines distinguish it from other species.

2. *T. SCUTELLARIS*.—Thorax inequal, posterior [239] angles rounded ; elytra with elevated polished and impressed lines.

Inhabits Upper Platte.

Body black, the depressions dusky cinereous : clypeus punctured, and with two distinct rounded tubercles ; anterior tip angulated ; edge reflected ; thorax very unequal, punctured ; lateral edge entire ; posterior angles very obtusely rounded : scutel angularly contracted in the middle, acute at tip : elytra with somewhat capillary impressed striæ, and transverse irregular impressed lines, dividing the surface into irregular longitudinally-quadrated, equally elevated, polished spaces ; a few remote punctures : feet profoundly punctured ; anterior tibia with a very obtuse crenation on the exterior edge.

Length thirteen-twentieths of an inch.

This I believe to be our largest species ; like its kindred, it feeds upon decomposing animal bodies, and is an inhabitant of the superior portion of the extensive region through which the rivers Platte and Arkansa flow. It may be distinguished from its neighboring large species, by the entire lateral thoracic edge, and by the equally elevated polished spaces of the elytra.

[Belongs to *Omorgus* Er. ; which is not received as a distinct genus by many entomologists.—LEC.]

CETONIA Fab.

C. BARBATA.—Hairy, scutellate ; elytra glabrous, pale reddish-yellow, spotted with black. [240]

Inhabits the United States.

C. lanius Fab. }
tonkæa Herbst. } Of Melsh. Catal.

Body with long yellowish-cinereous hair ; clypeus entire, concealed by the hair ; margin reflected : thorax covered with hair, beneath which it is cupreous, varied with blackish ; anterior and posterior margin reddish-yellow, the latter emarginate for the reception of the scutel : scutel reddish-yellow varied with black, oblong-triangular, acute : elytra reddish-yellow, with numerous, irregular, black-brown points, and a few obsolete, remote, short

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hairs: beneath blackish-cupreous, very hairy: venter glabrous; segments margined with reddish-brown.

Length rather more than half an inch.

Not uncommon in various parts of our country, and is found at Council Bluff, on the Missouri, and upon the Arkansa. Mr. Melsheimer, in his catalogue, refers to *lanius* and *tonkæa*; but it disagrees with the descriptions of each of these insects, by having a very distinct and rather large scutel, inserted at the base into a thoracic emargination. Neither does it agree with the description of *C. carnifex*, to which it has also been referred.

[This is *Cetonia inda*, described by Linnæus and Fabricius.—LEC.]

TRICHIUS Fab.

T. EREMICOLA.—Chestnut color; thorax darker, with an excavation and an anterior elevated line. [241]

Inhabits the United States.

Trichius eremicola Knoch in Melsh. Catal.

Head excavated between the eyes; edge elevated into a tubercle over the insertion of the antennæ: anterior edge reflected: thorax with a transverse dilated excavation before the middle, anterior to which is a transverse, elevated, abbreviated line; punctures numerous and dense before, sparse behind: elytra smooth, simply punctured.

Length one inch to one inch and a quarter.

A rare insect, but occasionally occurring in various parts of the country. Mr. Nuttall brought a specimen from the Missouri. It is allied to *T. eremita*, but differs from it in many respects, particularly in the sculpture of the thorax and elytra.

[A species of *Osmoderma*.—LEC.]

MELOLONTHA Fab.

1. M. LONGITARSA.—Pale, cinereous-testaceous; clypeus profoundly emarginate; tarsi elongated.

Inhabits Missouri.

Body pale, punctured, nearly glabrous: clypeus very densely punctured above, and sparsely so before; anterior edge very profoundly emarginate, the lobes concave above: thorax with numerous, slightly indented, irregular punctures; posterior angles subacute: scutel rounded at tip: elytra with irregular punctures: 1824.]

beneath subglabrous: [242] tarsi elongated, anterior ones as long as the femora and tibia conjunctly: nails armed with a strong tooth near the base.

Length nine-twentieths of an inch.

It is probably rather rare. The form of the body is cylindrical and elongated; the tarsi are remarkably elongated.

[A *Lachnosterna*.—LEC.]

2. *M. LANCEOLATA*.—Above with small lanceolate hairs or scales: beneath hairy.

Inhabits Missouri and Arkansas.

Body short, suboval, black or reddish-brown; nearly covered above with small lanceolate cinereous scales, which arise from impressed punctures: clypeus slightly emarginate, edge reflected: thorax a little dilated each side before the middle into a rounded angle; posterior angles acute; lateral edge slightly crenated: scutel rounded at tip: elytra with minute elevated points between the scale-like processes; from two to four obsolete, subglabrous lines: pectus and postpectus downy: venter in the male, having a compressed tubercle on the centre of each of the three middle segments, and the penultimate segment much indented: nails one-toothed near the base.

Length three-fifths of an inch.

This insect is very short in proportion to its thickness; and the remarkable character of the compressed tubercles on the venter of the male readily distinguish it from other species. I found this species near the Rocky Mountains. [243]

[Belongs to *Lachnosterna*; was made the type of a distinct genus, *Tostegoptera* Blanchard—LEC.]

3. *M. HIRSUTA*.—Castaneous, hairy; hair disposed in lines on the elytra.

Inhabits the United States.

M. hirsuta Knoch in Melsh. Catal.

Head hairy; punctures dilated, crowded, confluent; anterior edge emarginate, slightly reflected: thorax hairy: punctures dilated large, irregular, confluent, with slightly elevated centres, each furnishing a rigid hair: lateral edge minutely crenate, dilated in the middle: scutel punctured each side, rounded at tip: elytra minutely rugose; hair disposed in five or six longitudinal

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series on each elytron; breast with short cinereous, prostrate hair.

Length seven-tenths of an inch.

Readily distinguishable by the regular series of hair on the elytra. Inhabits Pennsylvania; and I observed it on the Missouri. Mr. Nuttall brought specimens from Arkansa.

[A *Lachnosterna*, previously described as *M. hirticula* Knoch.—Lec.]

4. *M. PILOSICOLLIS*.—Pale reddish-brown, hairy; thorax and base of the elytra with longer hair.

Inhabits the United States.

M. pilosicollis Knoch in Melsh. Catal.

Body reddish-brown, covered with dense yellowish cinereous hair: head with elongated hair; anterior edge entire, rounded, reflected: punctures dilated, shallow, dense: antennæ with scattered hairs; thorax with elongated hair and dilated, shallow, dense punctures: lateral edge dilated in the middle, subangulated; striæ none; scutel punctured, [244] hairy, rounded at tip: elytra pale testaceous, densely and equally punctured, and covered with short, reflected, dense hair, and with longer hair at base: pectus and postpectus with long hair.

Length half an inch.

An inhabitant of various parts of the United States. I observed it on the Missouri and Arkansa. It may be readily distinguished from our other species by the remarkably hairy appearance of the body, and particularly of the head, thorax, base of the elytra and breast. I can hardly suppose this species to be the *tristis* of Fab., although the hairy appearance of the thorax corresponds with the description of that insect; but the elytra are punctured and hairy, and the scutel is not white; whereas the elytra of *tristis* are said to be glabrous, and the scutel white.

[Also a *Lachnosterna*, but is *M. tristis* Fabr.—LEC.]

5. *M. VESPERTINA*.—Chestnut-brown; clypeus truncate, acutely emarginate each side; elytra sulcated, grooves punctured.

Inhabits the United States.

M. vespertina Melsh. Catal.

Head truncate before, margin a little reflected, punctures 1824.]

dense, a minute acute emargination each side near the tip: thorax with dense profound and subequally distributed punctures: scutel punctured, rounded at tip: elytra with dilated, shallow, confluent and irregularly punctured grooves; interstitial lines narrower than the groove, elevated, convex: beneath subglabrous, punctured. [245]

Length nearly two-fifths of an inch.

Mr. Nuttall obtained several species on the Missouri; it is also found in the Atlantic States. It varies in color, being perhaps generally light chestnut-brown; but it is sometimes dark chestnut, and I have a specimen that is nearly black.

[Belongs to *Serica* of the division *Camptorhina*, and identical with *C. atricapilla* Kirby.—LEC.]

6. *M. SERICEA*.—Dusky, iridescent; elytra concavely striated. Inhabits the United States.

M. sericea Knoch in Melsh. Catal.

Body light reddish-brown, castaneous, dark-brown, or blackish, strongly iridescent: clypeus densely punctured; with sparse hairs; edge very slightly reflected, anteriorly emarginate: thorax with numerous small, nearly equal, and subequally distributed punctures; lateral edge not dilated in the middle: scutel longer than wide, densely punctured each side nearly to the tip; a longitudinal elevated line; elytra concavely striated, striæ confluent punctured: anterior tibia bidentate.

Length about seven-twentieths of an inch.

This insect is beautifully iridescent, and by this character is readily distinguishable from all other North American insects of this genus that I have seen, with the exception of the *M. iricolor* nob., which is much smaller, black, and hairy on the head and thorax.

It is an inhabitant of Pennsylvania, and we obtained specimens near Council Bluff on the Missouri river.

[Also a *Serica*.—LEC.]

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7. *M. IRICOLOR*.—Blackish-brown, iridescent; with short hair.

Inhabits the United States.

M. micans Knoch in Melsh. Catal.

Body blackish, distinctly iridescent: head hairy, punctured:

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clypeus on the anterior margin reflected and emarginate at tip: antennæ bright yellow: thorax punctured, with short, numerous, yellowish hairs; a longitudinal, dilated, slightly indented line: elytra finely iridescent, with dilated, punctured, impressed striæ: posterior feet robust.

Length less than one-quarter of an inch.

Knoch's name *micans* is pre-occupied. My excellent and ingenious friend Mr. John F. Melsheimer, makes the following remarks on this insect in a letter to me: "This insect is very nearly related to *M. sericea*, but it is still sufficiently distinct, to entitle it to the rank of a peculiar species. It abounds in hilly and mountainous situations, where, in the month of May, the time of the sexual union of the species, it may be seen flying about amongst the whortle-berry bushes, in such profusion, that in a very short time any number desired might be collected: whenever a female alights upon the surface of the ground, she is immediately surrounded by a number of males."

[Also a *Serica*.—LEC.]

8. *M. 10-LINEATA*.—Above covered with a yellowish down; thorax trilineate, and elytra quadrilineate with white.

Inhabits Missouri.

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Body reddish-brown, covered with a very short spiniform down: clypeus quadrate, slightly wider at tip and truncate, emarginate in the middle; down yellowish, dusky on the tip, and whitish above the eyes: antennæ pale yellowish-brown, glabrous: clava elongated, and composed of seven lamina: thorax with yellowish-brown, and three longitudinal lines of white down, of which the lateral ones are interrupted near the anterior tip: scutel with white down, and glabrous margin: elytra with yellowish down; a common sutural line, and three others upon the disk of each elytron of white down; an abbreviated oblique white line from the humerus: pectus and postpectus hairy: feet castaneous, with white down; thighs and intermediate and posterior tibia, hairy behind; venter with white down, more dense upon the margins of the segments and in triangular spots each side.

Length nearly one inch.

A large and beautiful insect, which I first saw above the Paw-1824.]

nee villages on the Platte; several other specimens, however, occurred during our journey to the mountains. Its color varies from a light chestnut to a black; but the downy or spiny vesture is immutable, though it is very deciduous.

It seems to be closely allied to the *M. occidentalis*; but if Oliver's description of that insect be correct, it is sufficiently distinct. According to him, that species has sometimes only "une ligne [248] longitudinale, blanche, au milieu du corcelet," and the scutel is "marqué de deux taches blanchâtres;" whereas our insect has always three thoracic lines, and but a single scutellar spot.

Mr. Nuttall also obtained specimens of this insect on the Arkansas.

[A species of *Polyphylla*.—LEC.]

LUCANUS Lin.

L. PARALLELUS.—Mandibles one-toothed; elytra striate, punctured.

Inhabits the United States.

L. parallelus Knoch in Melsh. Catal.

Body dark reddish-brown, with dilated punctures: mandibles with an elevated conic tooth arquated inwards, situated on the middle of the superior inner edge, and a smaller tooth on the middle of the inferior inner edge; elytra punctured, striate, striæ with much dilated punctures; humeral angle mucronate; tibiæ, anteriors from four to seven-toothed, interior and posterior ones one-spined on the middle.

Length four-fifths of an inch.

Female destitute of the tooth of the mandibles.

Very distinct from *L. parallellipedus* by the striated elytra. It is not uncommon in the Atlantic States, and as far west as the Rocky Mountains.

[Belongs to *Dorcus*.—LEC.]

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PLATYCERUS Latr.

P. SECURIDENS.—Mandibles at tip securiform, and about six-toothed; elytra striate.

Inhabits the United States.

Lucanus platycerus Melsh. Catal.

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Body blackish or dark reddish-brown, tinged with brassy, punctured: mandibles as long as the head; inner side with a robust emarginate tooth at base; an unarmed excavated interval in the middle, and a dilated somewhat securiform tip, armed with about six small teeth; exterior edge with a rounded lobe at base, and elevated angle near the tip: thorax margined, not distinctly sinuous before the posterior angles: elytra punctured; striæ almost obsolete and punctured: anterior tibia with more than ten unequal very acute teeth.

Length two-fifths of an inch.

Very closely allied to *Lucanus caraboides*, and may possibly prove to be only a variety of that species; but as far as I have had an opportunity of comparing specimens, it differs from *caraboides* in color, in being rather more robust, and in being destitute of the obtuse sinus or truncation near the posterior angles of the thorax, which is observable in that species. The mandibles of the female are shorter than those of the male, the inner edge sometimes merely dilated and rectilinear, [250] terminating in an angle near the tip; the lobe on the exterior edge, also, is not apparent.

It inhabits as far west as the Rocky Mountains.

[Previously described by Weber as *P. quercus*.—LEC.]

ZOPHOSIS Latr.

Z. RETICULATA.—Black; posterior angles of the thorax elongated; elytra irregularly reticulate.

Inhabits near the Rocky Mountains.

Clypeus emarginate before: antennæ a little larger towards the three exterior joints not rounded but truncated at tip, the ultimate one subacute at tip, precisely resembling the corresponding joint of *Eurychora* as represented by Herbst, (pl. 5.) and not larger than the preceding joint: palpi, terminal joint a little larger than the preceding one: mentum widely emarginate, narrower at base, not concealing the base of the maxillæ so much as that of *Pimelia bipunctata*: thorax curvilinearly emarginated before for the reception of the head; punctures very minute, distant; anterior angles obtuse, somewhat prominent; margined each side; posterior angles elongated, acute, closely embracing the humeral angles: scutel none: elytra with obtuse, elevated, irregular, somewhat reticulated lines.

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Length nearly three-fifths of an inch.

Several specimens of this interesting insect occurred under dried bison dung near the Rocky [251] Mountains. They were generally pruinose, or more or less covered with a whitish powder. In form they agree perfectly with the present genus, but the mentum is rather too narrow, and the terminal joint of the palpi is rather too much dilated to correspond perfectly with Mr. Latreille's character of the genus.

[Belongs to *Eusattus* Lec.; a genus closely allied to *Praocis* Esch.—LEC.]

PIMELIA Lat.

P. ROTUNDA.—Black, with a few white hairs; anterior thoracic angles prominent, acute.

Inhabits Arkansa.

Body rounded, black, immaculate, with numerous white hairs arising from excavated punctures: head, anterior termination truncate, and much narrowed by the concavity of the lateral edge; over the insertion of the antennæ, a prominent acute angle: antennæ blackish-piceous; second, fourth, fifth, and sixth joints, equal; third slightly longer, obconic-cylindric; remaining joints more ovate, two or three terminal ones rather larger, the last acute at tip: palpi dark piceous, terminal joint truncate at tip: thorax very short and wide; anterior angles prominent, acute; punctures of the lateral margin much dilated, excavated, confluent; those of the disk smaller and distinct; lateral edge rectilinear: elytra with profound, excavated punctures at base, and smaller and less indented ones towards the tip. [252]

Length less than one-fourth of an inch.

This species we observed only within the distance of a hundred miles from the Rocky Mountains. In the form of the body it very closely resembles Olivier's figure of his *P. inflata*, the *P. flavicollis* of Fabricius. This new species I believe to be the first of this genus that has yet been found on this continent. The mentum is proportionally much larger than that of *P. bipunctata*, entirely concealing the mandibles even when viewed laterally, affording space only for a circumscribed play of the palpi. But the antennæ differ from those of the *bipunctata*, which have the terminal joint smaller and shorter than the preceding, and

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partly included in it; this character, however, Latreille, in the Règne Animal, does not state to be essential in this genus. The proportion which the terminal joint of the palpi bears to the preceding joints, is very similar to that of the palpi figured by Olivier, Vol. 3, No. 59, Pl. 1, and although this terminal joint is proportionally larger than that of the *bipunctata*, yet it is not more dilated than that of *Tentyria glabra*, which is admitted into the same subdivision with *Pimelia*.

The anterior tibiæ are not dentated like those of *Erodus*, but are furnished with small spines on the anterior and posterior edges; the form of the thorax and abdomen agree with Latreille's definition of *Pimelia* in the Règne Animal.

[Belongs to *Edrotes* Lec.—LEC.]

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AKIS Fab.

A. ? MURICATA.—Black; above with numerous small tubercles and setæ; thorax and elytra with widely reflected margins.

Inhabits Arkansa at the Rocky Mountains.

Body oblong-oval, black; superior surface armed with numerous minute tubercles, from each of which arises a small, recurved, ferruginous seta: clypeus not reflected: antennæ, third joint nearly equal to the two succeeding ones conjunctly; fourth, fifth, sixth, seventh, eighth, joints, obconic-cylindric; ninth, tenth, eleventh, rounded, the latter somewhat larger than the preceding one, and subacute at its tip: thorax transverse, dilated, and widely reflected each side, widest behind; anterior margin very profoundly and abruptly emarginated, the emargination receiving the head to the origin of the antennæ, and rather too narrow to admit the free motion of the head upward; lateral edge simply arquated; posterior edge rectilinear in the middle, excavated each side; anterior and posterior angles subacute, the latter extending far backwards so as to cover the anterior angles of the elytra: elytra inseparably united, widely reflected each side and behind, the exterior edge continuing the course of the thoracic edge, without any indentation between them: wings none: scutellum minute: tibia armed with minute spines.

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Length thirteen-twentieths of an inch.
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Occurred under dried bison dung, &c., near the Rocky Mountains. In addition to the above description of the antennæ, I may add that the four terminal joints are somewhat more dilated than the others. The mentum, although broader than long and emarginate at tip, is proportionally smaller than that of *Scaurus striatus*, permitting a view of the mandibles to the base; the palpi are decidedly more dilated at tip than those of *Tentyria glabra*; in this respect approaching the family of Blapsidæ. In form it seems to bear some resemblance to *Eurychora*, but the antennæ are eleven-jointed. As it does not entirely agree with any genus the characters of which Latreille has noted, it may be proper to remove it to the Blapsidæ, under a separate genus, which may be named *Embaphion*. It is still more closely allied to *Heleus* by its form, and indeed, if external characters only were to be considered, we would certainly be justified in referring it to that genus, but the fact of the maxillæ being armed with a horny nail, excludes it entirely and absolutely from the family of which *Heleus* is a member.

[The genus *Embaphion* is well grounded, and is more nearly allied to *Eleodes* than to *Akis*.—LEC.]

ASIDA Latr.

1. A. OPACA.—Black, opaque, scabrous: thorax with acute angles, and lateral reflected margin; elytra subinequal. [255]
Inhabits Arkansa.

Body black, opaque, scabrous with minute elevated points, which furnish very minute polished hairs: antennæ, terminal joint as small as the second: thorax widely emarginate for the reception of the head; anterior angles prominent; lateral margin dilated, reflected; lateral edge arcuated, excurved near the base: posterior angle very prominent, acute; posterior edge slightly deflected in the middle, recurved each side towards the angles: scutel minute: elytra with a somewhat inequal surface, destitute of distinct striæ or punctures; lateral edge acute, a little reflected at base; humeral angles acute.

Length three-fourths of an inch.

Found near the Rocky Mountains. The joints of the antennæ gradually become a little wider and shorter to the terminal one, which is less than half the size of the preceding joint. The

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mentum is much dilated and at tip emarginate, concealing the inferior portion of the maxillæ, with the exception of a point near their base. The form of the thorax agrees with *Akis*, but agreeably to Latreille's definition of that genus, it cannot have a place there.

[Belongs to *Euschides* Lec.; *Stenomorpha* || Sol.—LEC.]

2. *A. POLITA*.—Black, polished, glabrous; thorax with acute angles and reflected lateral margin.

Inhabits Arkansa.

Body deep black, polished, glabrous; head rugose with confluent punctures: labrum with [256] minute black hairs above and rufous ones on the anterior edge: thorax with minute, distant punctures; anterior edge concave; anterior and posterior angles acute, not prominent; lateral margin reflected, the edge arquated, not excurved near the base; basal edge nearly rectilinear: scutel minute: elytra slightly and irregularly rugose, destitute of punctures or impressed lines; exterior edge prominent and reflected near the base, rounded towards the tip; humeral angles acute.

Length more than half an inch.

Like the preceding species, and several of the *Blaps*, this species occurs under dried bison dung in the extensive region bordering the Rocky Mountains. The antennæ and mentum are similar to those of *A. opaca*.

[Also a *Euschides*.—LEC.]

3. *A. ANASTOMOSIS*.—Black, covered with short whitish hairs; elytra profoundly grooved.

Inhabits Arkansa.

Body black, clothed with short, dense yellowish-white hair: antennæ hardly attaining the base of the thorax, third joint hardly longer than the fourth, penultimate joint largest, terminal one smallest and rufous: thorax, angles subacute, anterior edge concave; lateral margin hardly reflected; edge arquated, very slightly excurved near the base: basal edge rectilinear: elytra each with three profound and concave grooves at the base, of which the sutural one extends to the tip, and the two others terminate beyond the middle, [257] at the origin of two other much abbreviated grooves, which are confluent before the tip: humerus not rounded.

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Length nine-twentieths of an inch.

This very distinct species is much less robust than the preceding ones, and is considerably contracted at the junction of the thorax and abdomen. Under bison dung with the foregoing species.

The terminal joint of the maxillary palpi of these three species, corresponding in its dilatation and form with the definition of the Fabrician genus *Blaps* by Mr. Latreille, in the *Regne Animal*, I have referred them to the genus *Asida*, as that to which they are most closely related, though the form of the body perhaps better agrees with *Akis*.

[This is the type, and thus far, the only species of *Pactostoma* Lec. Journ. Acad. Nat. Sci. 2d ser. 4, 19.—LEC.]

BLAPS Fab. Latr.

1. *B. SUTURALIS*. [Ante 1, 30.] [258]

B. ACUTA. [Ante 1, 31.] [259]

3. *B. OBSCURA*. [Ante 1, 32.]

4. *B. HISPILABRIS*. [Ante 1, 32.] [260]

Length from three-fifths to nearly one inch.

It is very possible that under this specific denomination, I have confounded two distinct species; but it seems probable that the three preceding species are subject to vary a little in the form of the thorax, and in size. I forbear separating them for the present.

[This and the three preceding belong to the genus *Eleodes*. I do not consider this as sufficiently distinct from *E. obscura*.—LEC.]

5. *B. CARBONARIA*.—Black; elytra with five or six regular series of punctures; impressed striæ none.

Inhabits the margins of the Arkansa river.

Body oblong, deep black, immaculate, punctured: head acutely punctured: labrum with black, rigid hairs: thorax subquadrate, punctures smaller than those of the head, and much more distant: lateral edge regularly arquated: anterior edge very slightly concave; posterior edge nearly rectilinear, a little arquated each side near the angles, which are obtuse: scutell slightly indented near the tip, impunctured: elytra with about six regular series of punctures, which are more distant from

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each other than the length of their diameters; impressed striæ none; interstitial lines with a few [261] remote, acute, minute punctures; lateral margin irregularly punctured, rounded: thighs robust, mutic.

Length seven-tenths to four-fifths of an inch.

This species occurred near the Rocky Mountains.

[Also an *Eleodes*.—LEC.]

6. *B. AXTRICATA*.—Black; elytra irregularly punctured, and destitute of impressed striæ.

Inhabits Arkansa.

Body deep black, narrowed anteriorly, oblong-subovate, immaculate, punctured: head acutely punctured: labrum with rigid hairs: thorax subquadrate, punctures smaller than those of the head and more distant; lateral edge regularly arquated; anterior edge very slightly concave; posterior edge nearly rectilinear, a little arquated each side near the angles which are obtuse: scutell convex, impunctured: elytra destitute of striæ, or distinctly regular series of punctures; scabrous with minute slightly elevated points, each of which precedes a puncture; lateral margin rounded.

Length about half an inch.

This species occurs in the country of the Arkansa and Platte, near the mountains. Mr. Nuttall also obtained specimens on the Upper Missouri. It is somewhat similar to the preceding species, but is shorter, and the sculpture of the elytra sufficiently distinguish it.

[Also an *Eleodes*.—LEC.]

7. *B. OBSOLETA*.—Black; elytra striate, slightly scabrous; suture obsoletely reddish-brown. [262]

Inhabits Arkansa and Missouri.

Body oblong-subovate, deep black, punctured: head and thorax similar to those of the preceding species: elytra with impressed striæ, which are slightly scabrous, with minute elevated points and impressed punctures; interstitial lines also punctured; sutural margin obsoletely reddish-brown.

Length from half an inch to more than three-fifths.

Like the preceding, this species inhabits the arid plains in the vicinity of the Rocky Mountains. The striæ of this insect are 1824.]

very obvious and impressed, and the sutural margin is reddish-brown, but this color is sometimes so indistinct as not to be perceptible but upon close inspection. As in the two preceding species the thighs are unarmed.

[A species of *Eleodes*.—LEC.]

8. *B. TRICOSTATA*.—Black, with minute hairs; elytra each with three elevated lines.

Inhabits Missouri and Arkansa.

Body oblong-oval, black, immaculate, with numerous minute prostrate hairs: thorax with numerous minute punctures, furnishing hairs; transversely subquadrate; anterior edge concave; basal edge rectilinear, covering the base of the elytra; lateral edge arquated, near the posterior angles excurved; angles rounded: elytra scabrous, with small elevated points furnishing hairs; three elevated lines above; a common sutural one, and a lateral one on the edge; intermediate spaces broad, flat, not concave, [263] and sometimes with the appearance of a slightly elevated longitudinal line alternating with the others: epipleura simply scabrous.

Length three-fifths of an inch.

Not unfrequent beyond the Mississippi river. Very distinct.

[Also belongs to *Eleodes*.—LEC.]

9. *B. OPACA*.—Black, with minute hairs; elytra destitute of striæ or conspicuous punctures, lateral edge acute.

Inhabits Missouri and Arkansa.

Body black opaque, oval-acute, with very minute prostrate polished whitish hairs: thorax with acute anterior, and obtusely rounded posterior angles; lateral edge not thickened or reflected, sublinear or hardly arquated: elytra destitute of striæ and of conspicuous punctures; basal edge concave for the reception of the base of the thorax; humeral angles acute; lateral edge acute.

Length two-fifths of an inch.

The humeral angles so closely embrace the lateral base of the thorax, as to present hardly an interruption to the regularity of the lateral curve of the body.

[This species, as noted by me, (Proc. Acad. Nat. Sc. 1858, p. 182,) has the first and second joints of the anterior tarsi of the

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male slightly dilated, and covered beneath with a dense brush of hair, it therefore constitutes a new genus, to which the name *Promus*, will belong. It differs altogether from *Eleodes* in its form of body.—LEC.]

PEDINUS Latr.

P. SUTURALIS.—Black; head and thorax minutely punctured; elytra with punctured striæ, and small prostrate hairs.

Inhabits Missouri.

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Head rounded; anterior emargination small: labrum transverse: thorax, punctures distinct, dense: scutellum rather large: elytra, striæ impressed, punctured; interstitial lines with very minute indentations, furnishing small, pale prostrate hairs: wings none: beneath piceous-black: venter slightly granulated, with very short hairs.

Length half an inch.

I place this species in the present genus, from the circumstance of its being altogether destitute of wings, although the elytra are not united at the suture.

[Unknown to me.—LEC.]

OPATRUM Fab. Latr.

O. INTERRUPTUM.—Blackish, with an obscure tinge of bronze; elytra with interrupted, punctured striæ.

Inhabits the United States.

Head black, finely punctured, punctures distinct; an obsolete indentation each side on the posterior margin: elytra brownish, tinged with bronze, with impressed striæ irregularly interrupted, and with large impressed punctures; interstitial lines finely punctured: beneath brownish-black.

Length nearly one-sixth of an inch.

I have found this species in Pennsylvania and Arkansas.

[Belongs to *Blapstinus*.—LEC.]

[265]

CRYPTICUS Latr.

C. OBSOLETUS.—Glabrous, black; beneath piceous.

Inhabits Arkansas.

Body with very minute, hardly perceptible punctures: mouth pale testaceous: antennæ rufo-testaceous, the joints all subequal
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in length: thorax rather large; posterior angles nearly rectangular, slightly rounded at tip; posterior edge not undulated; elytra with obsolete, hardly obvious punctured striæ: beneath piceous, more or less blackish: feet always pale piceous.

Length three-twentieths of an inch.

TENEBRIO Lin. Fab. Latr.

1. *T. BADIUS*.—Blackish-brown, oblong-oval, minutely punctured, thorax with larger punctures each side; elytra striate.

Inhabits the United States. Ohio.

Tenebrio badius Knoch in Melsh. Catal.

Body black, with a reddish-brown tinge, and very minute dense punctures: head, anterior canthus of the eyes indented; a transverse, indented abbreviated line between the antennæ: antennæ black-brown, terminal joint dull ferruginous: thorax transverse-quadrate; anterior angles projecting, rounded; posterior angles acute, rectangular; lateral edge prominent, arquated: larger punctures [266] each side near the posterior angles: elytra with indented punctures striæ; interstitial lines convex, with numerous very minute punctures: beneath dark reddish-brown.

Var. a. Reddish-brown.

Length nine-twentieths of an inch.

It is not unfrequently found in various parts of the country.

[A true *Tenebrio*, but previously described by Beauvois as *Holops tenebrioides*.—LEC.]

2. *T. INTERSTITIALIS*.—Blackish-brown, elongated; thorax with an indented spot behind, and somewhat dilated lateral margin.

Inhabits the United States. Ohio.

Tenebrio depressus Melsh. Catal.

Body blackish-brown, elongated, punctured; punctures rather large, confluent: head, lateral margin reflected: thorax quadrate, with an indented spot behind the middle; anterior angles prominent, rounded at tip; lateral margin slightly reflected; lateral edge very slightly arquated; posterior angles acute: scutellum rounded at tip: elytra with indented striæ, in which are dilated punctures; interstitial lines narrow and with a few minute tubercles.

Length seven-twentieths of an inch.

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The tubercles which are situated upon some of the interstitial lines of the elytra, are very minute, and on some specimens nearly obsolete. It is an insect of frequent occurrence. Mr. F. V. Melsheimer named it *depressus*, but as it does not agree with the description of the *depressus* as [267] given by Fabricius, Olivier, and Herbst, I have appropriated to it a new designation.

3. T. TERMINATUS.—Blackish-brown; terminal joint of the antennæ fulvous.

Inhabits Missouri.

Body blackish-brown, punctured: palpi, antennæ at base, and labrum, piceous; terminal joint of the antennæ fulvous: thorax subinequal: a longitudinal impressed line; anterior edge concave: elytra profoundly striated, the striæ punctured: scutellum dark piceous.

Length half an inch.

The inferior part of the body varies in its depth of coloring, but is reddish-brown. The fulvous joint of the antennæ, impressed thoracic line, and concave anterior thoracic edge, sufficiently distinguish this species from others of this country.

[Belongs to *Stenochia*.—LEC.]

DIAPERIS Geoff. Latr.

1. D. EXCAVATA.—Black: head excavated; and with two horns on the vertex; antennæ rufous.

Inhabits Arkansa.

Head with two parallel, prominent, cylindrical, piceous horns, which project forward in a line with the body, and originate between the eyes: front between the horns deeply excavated; an indentation each side before: antennæ and palpi pale rufous: mandibles black: thorax minutely punctured; [268] lateral edge nearly rectilinear, or but slightly curved: an indentation each side of the middle on the posterior margin: elytra with impressed punctured striæ: beneath punctured: feet dusky rufous or piceous.

Length less than one-fifth of an inch.

The horns disappear in the female, and are supplied by two short tubercles. This species differs from *viridipennis* Fab., in color, in being destitute of the two small horns on the front of the clypeus, and in the direction of the horns of the vertex, which

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in that species are nearly vertical. It was found by Mr. Thomas Nuttall.

[Belongs to *Platydemia*.—LEC.]

2. D.? BIFASCIATA.—Reddish-brown; two bands on the elytra, and region of the scutel black.

Body reddish-brown, punctured: head reddish-black: eyes black: palpi whitish: thorax with a dusky obsolete spot on the middle, and another on each side: angles rounded; punctures very minute, dense: elytra yellowish-fulvous, with punctured striæ: a broad band in the middle, another near the tip, and scutellar region, black: feet pale reddish-brown.

Length less than one-tenth of an inch.

Found at Engineer Cantonment.

[Belongs to *Alphitophagus*.—LEC.]

CISTELA Fabr. Latr.

1. C. AMENA.—Sanguineous; head, elytra, and feet, black. Inhabits Arkansa. [269]

Body minutely punctured: head with a transverse indented line between the antennæ: mouth beneath, excepting the palpi, pale sanguineous: elytra minutely rugose, and with punctured striæ.

Length seven-twentieths of an inch.

[Probably belongs to *Xystropus* Sol., but I am not certain to what genus it should be referred.—LEC.]

2. C. BREVIS.—Black; antennæ, palpi, and feet, rufous.

Inhabits Pennsylvania.

Cistela rufipes Melsh. Catal.

Body somewhat dilated, wide, and rather short; head indented on the front and on the hypostoma; labrum piceous: antennæ and palpi rufous: thorax with a longitudinal, submarginal, abbreviated indentation each side; posterior angles acute: elytra striate, the striæ finely punctured; interstitial lines convex: feet entirely rufous.

Length more than seven-twentieths of an inch.

This species is not the same as the *rufipes* of Fabricius.

[A true *Cistela*; a variety of this species with fulvous elytra is *C. erythroptera* Ziegler, Pr. Acad. Nat. Sc. 2, 46.—LEC.]

3. C. BASILLARIS.—Dark chestnut-brown; elytra striate, with a pale rufous spot at the base of each.

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Inhabits Pennsylvania.

C. bipustulata Knoch in Melsh. Catal.

Head punctured : base of the antennæ, and mouth, dull rufous : thorax hardly punctured, with three indefinite indented lines on the posterior margin ; posterior angles rectangular : elytra with punctured striæ and interstitial lines : basal [270] spot oval, oblique, extending from the humerus inwards and backwards towards the suture ; beneath paler ; middle of the pectus blackish.

Length one-fifth of an inch.

Altogether different from the *bipustulata* of Illiger.

[A species of *Mycetochares*.—LEC.]

4. *C. FRATERNA*.—Dark chestnut brown ; elytra punctured, with a pale rufous spot at the base of each.

Inhabits Pennsylvania.

C. axillaris Knoch in Melsh. Catal.

Head punctured ; a transverse impressed line between line between the antennæ : antennæ at base, and mouth dull yellow-rufous : thorax punctured, with three indefinite indented lines on the posterior margin ; posterior angles nearly rectangular : elytra punctured, destitute of striæ, excepting one near the suture ; basal spot oval, oblique, extending from the humerus inwards and backwards towards the suture : beneath much paler.

Length more than three-twentieths of an inch.

Resembles the preceding, but is smaller, and the elytra are not striated. The name *axillaris* has been employed by Paykull to designate a species altogether different from this.

[Belongs to *Mycetochares*.—LEC.]

5. *C. SERICEA*.—Pale testaceous, immaculate ; elytra obsoletely striated near the suture.

Inhabits the United States.

Eyes black : mandibles black at tip : antennæ slightly darker towards the tip : thorax as well as the head minutely punctured ; posterior angles hardly acute : scutel quadrate : elytra minutely punctured ; striæ obsolete, more obvious near the suture : beneath somewhat paler.

Length about one-fifth of an inch.

This very common insect is readily distinguished by its pale color.

[Belongs to *Isomira* Muls.—LEC.]

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PYTHO Latr.

P. PALLIDA.—Thorax with two impressed lines at base; clypeus emarginate before.

Inhabits Arkansa.

Body pale reddish-brown, very much depressed, flat above, minutely punctured: clypeus on the anterior edge concave, the angles acute, (more prominent in one sex:) thorax, anterior edge very concave: anterior angles obtusely rounded; posterior edge perfectly rectilinear; posterior angles acute; base with two impressed lines abbreviated before: elytra with punctured striæ, lateral edge slightly elevated.

Length one-fifth of an inch nearly.

This curious species was found on the banks of the river Arkansa by Mr. Thomas Nuttall.

It is found in various parts of the United States.

[Belongs to the genus *Adelina* Dej., of which, however, I have not yet seen any description.—LEC.]

CEDEMERA Latr.

1. *CE. RUFICOLLIS*.—Black; thorax rufous, with two profoundly indented spots. [272]

Inhabits the United States.

Necydalis ruficollis Knoch in Melsh. Catal.

Body black, with minute hairs: mouth, excepting the palpi, somewhat piceous; beneath yellow: thorax rufous, narrowed behind: two profoundly indented spots placed one each side of the base, a less profoundly indented one at base: elytra purple-black, minutely granulated; three remote elevated lines.

Length one-fourth of an inch.

Found specimens on the Missouri and near the Rocky Mountains. Mr. Nuttall also obtained them on the Arkansa.

[Belongs to *Asclera*; afterwards described as *Ichnomera carinata* Newman, Ent. Mag., 5, 378.—LEC.]

2. *CE. FRAXINI*.—Black: thorax rufous, longitudinally oblong, narrowed behind.

Inhabits the United States.

Necydalis fraxini Melsh. Catal.

Body blackish-brown, with minute hairs: mouth piceous and
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tennæ brown: thorax pale rufous, longitudinally oblong, narrowed towards the base; two very slightly indented dots before the middle, and a hardly perceptible one near the base: elytra confluent and minutely punctured, pubescent: tibia pale.

Length three-tenths of an inch.

The elytra have some faint appearances of impressed lines. This may probably be the *Necydalis thoracica* of Fabr.; it is certainly allied to his *N. sanguinicollis*. [273]

[Belongs to *Asclera*, and is the Fabrician species first mentioned.—LEC.]

3. *Æ. VESTITA*.—Black, hairy; elytra pale brownish; feet testaceous.

Inhabits Missouri.

Body black, punctured; with dense cinereous hair: head with a dilated, transverse, indented line between the antennæ: basal joint of the antennæ very obscurely rufous: labrum obscure rufous: maxillary palpi blackish; terminal joint elongated, cylindrical: thorax subcylindric, a little dilated each side before, and gradually contracting to the base, the edge at base a little excurved, an impressed dorsal line at base: scutel minute: elytra pale brownish, not attenuated at tip: densely punctured, and covered with short whitish hair: feet rufo-testaceous: tarsi dusky: thighs simple.

Length from three-tenths to two-fifths of an inch.

[Unknown to me; perhaps an *Asclera*, but more probably belongs to *Stereopalpus*.—LEC.]

4. *Æ. PUNCTICOLLIS*.—Black; thorax rufous, with a black spot.

Inhabits Missouri.

Body black: antennæ, two basal joints beneath pale: thorax rufous, narrowed behind, disk somewhat impressed and with a large rounded black spot: elytra minutely granulated, with three remote elevated lines.

Length about three-tenths of an inch.

Very like *Æ. ruficollis*. [274]

[An *Asclera*.—LEC.]

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DORTHEZIA Latr.

1. *D. FASCIATA*.—Black; elytra yellowish, ovate, black at base; wings with a blackish band.

Inhabits Missouri.

Body deep black, opaque, punctured: vertex elevated into a carinated tubercle: antennæ dilated, brown, paler at base of the processes, concave before; scapus very short, dusky; flabellate processes elongated, robust: front plane: palpi obsoletely annulate with pale: thorax slightly emarginate over the scutel, an impressed, abbreviated, dorsal line: elytra reddish-yellow, subovate; exterior margin from the base to the middle, and basal margin, black; wings white, an irregular fuscous band near the tip: feet black; anterior pair pale rufous, thighs black behind; intermediate pair, tibiæ and tarsi pale rufous; posterior tarsi pale rufous.

Length three-tenths of an inch nearly.

[*Dorthesia* is a genus of Diptera; the two species here described belong to *Myodes*.—LEC.]

2. *D. FLAVICORNIS*.—Black; antennæ bright yellow; elytra dark piceous, with a common pale spot.

Inhabits Pennsylvania.

Mouth with whitish hairs; mandibles pale piceous: thorax minutely granulated, with a polished oblique slightly elevated spot each side of the middle: elytra rounded at tip: a common dull [275] yellowish cinereous spot on tip: wings hyaline: feet dull honey-yellow, posterior pair darker.

Length less than one-fifth of an inch.

Resembles the preceding, but is smaller, destitute of the band of the wings, and of the impressed thoracic line.

RHIPIPHORUS Bosc. Latr.

R. BICOLOR.—Black; thorax dull rufous; elytra pale testaceous; head truncate above.

Inhabits Pennsylvania.

R. bicolor Melsh. Catal.

Head punctured: vertex much elevated, truncated above, the superior angles rounded: antennæ ———: palpi piceous: thorax dull rufous, punctured; posterior edge black: elytra pale testa-

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ceous, edged with black, excepting the exterior edge near the base; extreme tip and spot on the anterior part of the humeral tubercle, black: wings fuliginous.

Length about a quarter of an inch.

This species resembles the male of *dimidiatus* Fab., and *humeralus* Fab., but the vertex of those two species, although considerably elevated, is rounded at tip, and the former has a robust spine over the middle lobe of the posterior margin of the thorax.

[I have proposed for this species the name *R. Sayi*, (Journ. Acad. Nat. Sc. 2nd ser. 4, 21), for the following reasons: The name proposed by Say was pre-occupied by Olivier; Dr. Melsheimer on this account substituted the name *R. ambiguus*, but described under that name a variety of *R. pectinatus* Fabr., (*varicolor* Gerstæker). Although Gerstæcker has placed *R. bicolor* Ol. as a synonym of *R. bimaculatus*, this does not obviate the necessity of changing the name imposed by Say under a belief that the name was free. This species is cited by Gerstæcker as a synonym of his *R. varicolor*, but it differs very much from that species by the anterior face of the vertex being flattened, and the posterior margin so broadly rounded as to appear truncate, as above noted by Say.—LEC.] [276]

ANASPIS Geoff. Latr.

1. A. TRILOBA.—Black, covered with dirty yellowish hair; elytra with three black bands, and two spots at base.

Inhabits Missouri and Pennsylvania.

Body deep black, covered by dense, short, dull yellowish hair: antennæ testaceous, black at tip: palpi testaceous: thorax transversely quadrate; angles rounded; posterior margin lobed in the middle, lobe truncate; disk with a trilobate black spot, confluent before: scutel distinct: clytra each with a humeral and scutellar black spot, and three subequal, equidistant black fascia, the last terminal: pectus and postpectus with subargenteous hair: feet black; anteriores, tibia, and tarsi testaceous; posterior pair, tibia and tarsi piceous.

Length about three-twentieths of an inch.

Considerably resembles *Mordella trifasciata* of Melsh. Catal. but the species here described has three distinct bands of yellow. [1824.]

lowish hair, the last one of which is not terminal, and the ground color of *3-fasciata* is yellow.

[Not an *Anaspis* but a *Mordella*.—LEC.]

2. A. 4-PUNCTATA.—Black; each elytron with two cinereous points.

Inhabits Missouri.

Head and thorax densely covered with brownish-cinereous, silky hair: elytra each with two cinereo-argenteous approximate points, rather beyond the [277] middle of each elytron, the exterior one somewhat linear, and a smaller obsolete subsutural one near the base.

Length three-tenths of an inch.

[Belongs to *Mordella*.—LEC.]

MORDELLA Linn. Latr.

1. M. BIDENTATA.—Brown, varied with cinereous, scutellid bidentate.

Inhabits Missouri.

Body light brown, covered with short dense hair: head dusky, with cinereous hair: palpi pale rufous: thorax with cinereous lines somewhat radiating from the middle of the anterior margin: scutellid profoundly emarginate at tip, the angles dentiform, acute: elytra brown varied with cinereous; a sutural line, a subterminal arc, one or two abbreviated basal lines, and about three linear spots rather beyond the middle placed 1, 2, of which the inner one is confluent with the sutural line, cinereous, tip angulated or slightly mucronate at the suture.

Length seven-twentieths of an inch.

The largest species that I have seen native of this country.

2. M. SCAPULARIS.—Black; elytra with a large ferruginous spot on the base of each.

Inhabits the United States.

Mordella bimaculata Melsh. Catal.

Head and thorax with obscure yellowish hair: [278] antennæ at base, labrum, and palpi rufous: elytra with black hairs, and an oval spot of ferruginous hairs, situated near the base and extending obliquely from the humerus towards the suture: tarsi 1824.]

and anterior tibiæ, and venter, particularly towards the tip, rufous.

Length less than one-fifth of an inch.

Fabricius has applied the name *bimaculata* to a different species; I have therefore changed the name.

3. *M. MARGINALIS*.—Black; head before and thorax dull rufous.

Inhabits Pennsylvania.

Hypostoma and inferior part of the front dull yellow-rufous: antennæ black: thorax dull yellow-rufous, with a black quadrate oblong spot extending from the middle to the scutel, and another at each lateral angle: elytra immaculate: beneath dull golden sericeous.

Length more than three-twentieths of an inch.

ANTHICUS Payk. Leach.

1. *A. CINCTUS*.—Dark rufous; elytra black, rufous at base, a cinereous band before the middle.

Inhabits the United States.

Body dusky rufous: antennæ dusky towards the tip: eyes deep black: thorax subbilobate, contracted rather behind the middle, anterior lobe suborbicular: elytra hirsute, punctured, black, base [279] rufous; a band before the middle and terminal spot cinereous: feet blackish, rufous at base: venter black.

Length more than one-eighth of an inch.

Var. a. Destitute of the terminal cinereous spot.

2. *A. BASILLARIS*.—Rufous; elytra black, rufous at base.

Inhabits the United States.

Notoxus melanocephalus? Melsh. Catal.

Eyes deep black: thorax broadest before the middle, and narrowed by an almost straight line to the posterior angles: elytra punctured, blackish; base somewhat gibbous and rufous: postpectus and venter piceous.

Var. a. Head blackish.

Size of the preceding nearly.

Resembles the preceding, but the thorax is not so much contracted behind the middle.

HORIA Fab. Oliv.

H. SANGUINIPENNIS.—Body black; elytra sanguineous, immaculate.

Inhabits Pennsylvania.

Body short, robust, deep black, scabrous, with dense punctures: head lobate at the basal angles, with a slightly elevated, longitudinal, glabrous line on the front; antennæ impunctured; third joint as large or larger than the first; terminal joint [280] acuminate from its middle: mandibles glabrous, and with the palpi impunctured: thorax transverse-quadrate, very obtusely rounded behind: scutellum conspicuous, rounded behind, punctures more minute than those of the thorax: elytra very flexible, sanguineous, immaculate: feet punctured; nails denticulated on the middle, tip and base simple.

Length more than two-fifths of an inch.

This species is an interesting addition to the catalogue of North American insects, as it is the only one of its very limited genus, yet found here: It must be rare, only a single specimen having yet occurred. It is very distinct from the three or four species already known.

MELOE Linn. Latr.

I. M. ANGUSTICOLLIS.—Thorax narrower than the head; elytra and abdomen violaceous.

Inhabits Pennsylvania.

Body dark violaceous, punctured: head with profound punctures, an impressed, longitudinal, abbreviated, acute, frontal line; and a transverse, elevated, obtuse one connecting the bases of the antennæ: thorax slender, narrower than the head, profoundly punctured, widest rather before the middle, and narrowed at tip and base; base emarginate, and slightly margined: elytra rugulose, dark bluish-violaceous: feet slightly hairy, spines [281] of the tibia, and nails ferruginous: abdomen slightly rugulose, dark greenish, or violaceous: tergum each side black, opaque.

A rare species, very distinct from the *M. americana* of Leach, which is not uncommon, and is sometimes gregarious in great numbers; the thorax of *angusticollis* is strikingly narrower proportionally, as well as the head, than the body; and the colors of

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the insect are more violaceous. When taken, it diffused an odor very similar to that of some *Blattæ*.

2. *M. CONFERTA*.—Black, with dense punctures; antennæ regular.

Inhabits Missouri and Arkansa.

Body black, opaque, punctured; punctures crowded, concave, equally distributed, confluent, furnishing short black hairs: head with separated punctures on the anterior part of the front, distant ones on the clypeus, and remote ones on the labrum: antennæ regular: thorax as wide as the head, emarginate at base; sides very slightly arquated, hardly narrower at base; a longitudinal, dorsal, acute, impressed line: elytra scabrous, with minute elevated points, and numerous short black hairs.

Length, male half, female four-fifths of an inch.

Perfectly distinct from the preceding species, and from the *americana*, by the very dense and equally distributed punctures of its head and thorax, [282] and by its minutely scabrous elytra. Found in the vicinity of Council Bluff, and near the Rocky Mountains.

[Differs from *Meloe* by the elytra not being imbricated: it forms the genus *Henous* Hald., but was described by him as *H. texanus*. —LEC.]

[Continuation from Vol. 3, pp. 298—331.]

LYTTA Fabr.

1. *L. FERRUGINEA*.—Black, covered with short ferruginous hair.

Inhabits Missouri Territory.

Body above invested with crowded ferruginous, short, prostrate hair; beneath darker in consequence of the more sparse hair: eyes brown, oval: antennæ hardly larger than the thorax, glabrous, black; basal joint hairy: labrum and palpi glabrous, black: thorax suboval; a longitudinal impressed line, and a basal transverse one.

Length about two-fifths of an inch.

The antennæ are rather short, and exactly filiform. Found on the Missouri by Mr. Nuttall.

2. *L. MACULATA*.—[Ante, 1, 6.] [299]
1824.]

3. *L. SPHÆRICOLLIS*.—[Ante, 1, 7.] [300]

4. *L. NUTTALLI*.—[Ante, 1, 5.] [301]

The antennæ of this species in the proportional length of the second and third joints, are similar to those of the genus *Zonitis*, as defined by Latr., Règne Animal, and together with those of the species *aenea*, *polita*, *sphæricollis* and *reticulata*, are considerably different from those of many of the other species of this genus, being somewhat thicker towards the tip, but are much shorter than in *Zonitis*; these characters, combined with form of the terminal joint, approach them to the genus *Mylabris*; but the antennæ are not arquated at tip, and are of a more considerable length; the habit also differs, the form of the body being more elongated. These four species then, seem to have the habit of *Lytta*, combined with a form of antennæ approaching somewhat to that of *Mylabris*. They cannot be referred to *Zonitis*, as the palpi are not filiform, and the habit differs.

First observed by Mr. Thomas Nuttall on the Missouri. I found them on one occasion near the Rocky Mountains in great numbers; small bushes of various kinds were loaded with them.

5. *L. AENEA*.—Greenish-blue or brassy, hairy: elytra glabrous, brassy or purplish; feet rufous, knees and trochanters black.

Lymexylon aeneum Melsheimer's Catalogue.

Inhabits Pennsylvania. [302]

Body bluish-green or dark brassy, opaque: head punctured, hairy; eyes oval, not emarginate, fuscous: antennæ black, longer than the thorax, joints subtorbinate, terminal one largest near the middle, acute at tip: labrum prominent, punctured, divided by a profound sinus into two divaricated lobes: palpi blackish: thorax punctured, narrowed before, not wider near the middle than at base; hairy: scutell hairy: elytra glabrous, somewhat rugose, with two obsolete elevated lines: feet rufous, knees and trochanters black.

Length rather more than half an inch.

Var. b. Tarsi black.

This is not a common insect. It was referred by Mr. F. V. Melsheimer to the genus *Lymexylon*, but it is not a Pentamerous insect.

[Having failed to identify this species, it was described by me
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as *Cantharis nigricornis*, Jour. Acad. Nat. Sc. Phil. ser. 2d, 1, 90. —LEC.]

6. L. POLITA.—Head and thorax glabrous, brassy, green, polished; elytra pale olivaceous; feet rufous, trochanters and four anterior tibia bluish.

Inhabits Georgia.

Body above glabrous, punctured; beneath hairy; head brassy, polished, with distant punctures: eyes large, oval, entire, prominent: antennæ black, rather long; joints oblong-conic, terminal one largest beyond the middle, abruptly narrowed so as to resemble a twelfth joint; tip acute: labrum blue, bilobate, lobes divaricating: palpi black, not remarkably dilated at tip: thorax glabrous, brassy, polished, punctured each side, distinctly wider before the middle: scutellum hairy: elytra pale olivaceous, [303] tinged with brassy, slightly rugose: two slightly elevated, obsolete lines: feet rufous, knees and two anterior pairs of tibia blue: tarsi fuscous.

Length three-fifths of an inch.

Very much resembles the preceding species, but differs by many characters, particularly in the form of the thorax, in the color, polish, and hair of this part and the head, in the form of the antennæ, &c.

In the bilobate form of the labrum, these two species differ from the other species of this genus; their palpi are somewhat similar to those of *Zonitis* and *Nemognatha*, but the second joint of the antennæ is minute, and the body is elongated.

7. L. SEGMENTA[Ta].—Black; beneath, segments edged with cinereous.

Inhabits Arkansas.

Body black, covered by very numerous, short, prostrate black hairs: head with an obsolete, hardly perceptible, rufous, abbreviated, frontal line; anterior edge of the clypeus somewhat pale; beneath, and each side before the eyes, covered with cinereous hair; antennæ, second joint two-thirds the length of the third joint: thorax anterior and posterior edges cinereous; an impressed longitudinal line: beneath, incisures, excepting those of the feet, margined with cinereous hair.

Length four-fifths of an inch.

1824.]

A fine large species, found in very considerable [304] numbers near Purgatory river of the Arkansa, called by Lieutenant Pike the "First Fork."

8. *L. IMMACULATA*.—Black, with cinereous hair; second joint of the antennæ as long as the third.

Inhabits Arkansa.

Body black, partially covered with short, prostrate, cinereous hair: antennæ, second joint as long as the third: palpi, beneath the hair, reddish-brown: thorax with an impressed, longitudinal line.

Length four-fifths of an inch.

9. *L. ARTICULARIS*.—Black with dense ferruginous hair; second joint of the antennæ as long as the third.

Inhabits Arkansa.

Body black, entirely concealed by dense, short, prostrate, ferruginous hair: antennæ subglabrous, half as long as the body; second joint equal to the third: palpi obscure reddish-brown; thorax with a longitudinal impressed line, not narrowed behind: tibia with sparse hairs: tarsi with black hairs.

Size of the preceding, to which it is very similar in form, and of which it may very possibly be a variety. Found near the Rocky Mountains. The color of the hair, with which the body is covered, is very similar to that of *L. ferruginea*, but that insect is very different in the proportional length of the antennæ.

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10. *L. ALBIDA*.—[Ante, 1, 6. Having failed to identify this species, I described it as *L. luteicornis*, Proc. Acad. Nat. Sc. Phil. 7, 84.—LEC.]

11. *L. RETICULATA*.—Black; elytra reticulate with elevated nervures.

Inhabits Arkansa.

Body black, obsoletely tinged with green, subglabrous, punctured: head irregularly and confluent punctured: antennæ gradually more robust towards the tip: thorax somewhat rounded, much narrowed before, punctures sparse before, confluent each side and behind: elytra reticulate, with elevated nervures.

Length about seven-tenths of an inch.

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A very remarkable and distinct species; the reticulated elytra give it a very peculiar aspect. The antennæ are similar to those of *L. Nuttalli*, but the body is proportionally shorter. [306]

NEMOGNATHA Illig.

1. *N. ATRIPENNIS*. Testaceous; elytra black.

Inhabits Arkansa.

Testaceous, punctured: head with concave punctures, remote on the vertex and confluent between the antennæ: antennæ, mandibles, and palpi, black: labrum piceous: thorax, punctures rather large, remote: elytra black, punctures profoundly impressed, rather distant, more numerous on the margin and tip: postpectus, knees, tibia at tip, and tarsi, black.

Length less than two-fifths of an inch.

Found near the base of the Rocky Mountains, and between the rivers Arkansa and Platte.

The genera *Zonitis* and *Nemognatha* are similar to the genus *Horia* in the form of the tarsi, which are bifid and pectinated, in this respect widely differing from *Lytta*, &c., of which the tarsi are simply bifid.

2. *N. MINIMA*.—Testaceous; head and thorax elongated; postpectus black.

Inhabits Arkansa.

Body somewhat elongated, testaceous, punctured, with numerous hairs: head elongated: vertex obtusely and slightly indented: antennæ black, dusky, rufous at base: labrum blackish: palpi dusky: maxillæ blackish, elongated: thorax conic, much narrower than the elytra: elytra paler than [307] the head and thorax, punctures confluent: postpectus, and venter at base, black: feet varied with dusky: tarsi black.

Length from one-fourth to three-tenths of an inch.

This is the smallest species I have seen; it is proportionally much narrower than others. I observed numbers of them near the Rocky Mountains. It belongs to genus *Gnatho* of Kirby.

[Unknown to me.—LEC.]

BRUCHUS Fab.

B. DISCOIDEUS.—Black, with dense cinereous hair beneath; a large rufous spot on each elytron; anus white, with four spots.

Inhabits Arkansa.

1824.]

Body black, covered with short, cinereous hair: head with a carinated line between the eyes, and dilated, slightly impressed, confluent punctures: thorax hardly hairy on the middle, with dense, confluent, dilated, slightly impressed punctures, and a longitudinal indented line: elytra with impressed striæ and large punctures: a large longitudinally oval rufous spot on each, which attains the lateral edge: anus with four black spots, of which two are triangular and near the middle, and two are semitriangular, marginal, and placed beyond the middle.

Length three-twentieths of an inch.

Taken near the mountains. It is closely allied [308] to *Curculio abbreviatus* of Melsh. Catal. (which is a *Bruchus*,) but is much larger, and further distinguished by the anal spots.

CRYPTORHYNCHUS Illig.

1. *C. OCLATUS*.—Dusky ferruginous, varied with black; eyes very large, approximate, acute before.

Inhabits Missouri.

Body black, punctured, partially covered by oblong, yellowish-ferruginous scales: eyes very large, approximate, longitudinally oblong, acute before, and separated by a narrow line: rostrum punctured, black: base striate, with slightly elevated lines, and with a few scales: tip piceous: antennæ pale rufous: thorax with dilated confluent punctures beneath the scales: elytra punctured, and with punctured striæ; interstitial lines more elevated behind; tip obsoletely ferruginous: thighs with a black, denuded band above, and a slightly projecting, obtuse angle beneath: tibia pale piceous.

Length less than one-tenth of an inch.

[Belongs to *Copturus*.—LEC.]

2. *C. OPERCULATUS*.—Black, varied with cinereous scales; eyes very large, approximate, acute before, separated by a narrow line; thorax with dilated approximate punctures, each closed by an orbicular scale.

Curculio quercus? Melsh. Catal.

Inhabits Arkansas.

[309]

Length, exclusive of the rostrum, more than three-twentieths of an inch.

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This species very much resembles the preceding, but is larger, black, and the thoracic scales are orbicular, exactly closing the dilated punctures like opercula.

[Belongs to *Copturus*.—LEC.]

FALCIGER Meg. Dej.

1. F. ACEPHALUS.—Blackish, spotted with cinereous; thorax with an impressed line, an obtuse tubercle on each side.

Inhabits the United States.

Body covered with short robust hairs or scales, brownish-black, spotted and varied with cinereous, imbricate: head, when at rest, completely retracted within the thorax, somewhat retuse between the eyes: thorax, anterior margin abruptly contracted into a collar; posterior edge minutely dentate; an impressed longitudinal line becoming canaliculate towards the scutellum; an obsolete, obtuse tubercle each side of the middle: elytra striate; striae with scales concealing the punctures; interstitial lines with elevated and acute points partially concealed by the scales; tip rounded and picaceous on the edge; anal segment black: feet rufous: thighs mutic.

Var. a. A common double abbreviated white line at the base of the suture.

Length more than one-tenth of an inch.

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The variety occurs in Pennsylvania. A different species, which I have named 4-*spinatus*, inhabits this State, remarkable for its similarity to the *acephalus*, but it may be immediately distinguished by the armature of two upright spines on the anterior edge of the thorax.

[Belongs to *Caliodes*.—LEC.]

CURCULIO Fab. Latr.

1. C. ACUTUS.—Cinereous; clypeus profoundly emarginate; a blackish band behind the middle of the elytra.

Inhabits Missouri.

Body brownish-cinereous, punctured, covered with minute imbricate scales: head profoundly and acutely emarginate at tip, a longitudinal, impressed line: eyes black: antennae, club blackish; elytra with punctured series somewhat in pairs; interstitial lines convex, alternate ones rather more elevated; a black-brown 1824.]

band rather behind the middle, abbreviated each side; tip a little prominent, acute: thighs mutic; a black, longitudinal, impressed line beneath the head.

Length three-tenths of an inch.

The dusky band of the elytra has a jagged anterior and posterior outline.

[This is the type of *Brachystylus*.—LEC.]

2. *C. AURICEPHALUS*.—Dull green; head and anterior side of the feet golden.

Inhabits Mississippi.

Body covered with minute scales: head golden-cupreous; [311] an impressed line and obsolete abbreviated one each side: thorax green, depressed above, and obliquely depressed each side: elytra green, with regular series of punctures; interstitial lines minutely punctured; three alternate ones elevated: beneath green: anterior tibia, and intermediate and posterior pairs of feet on the anterior side golden-cupreous.

Length (total) half an inch.

A very fine species. Mr. Nuttall brought a specimen from Missouri? and I obtained one on the Mississippi river above Natchez.

[This is *Platyomus auriceps* Sch.—LEC.]

R[H]YNCHÆNUS Fab.

1. *R. CAUDATUS*.—Imbricate, dusky-cinereous, tinged with golden; elytra caudate.

Inhabits Missouri.

Body dusky-cinereous, covered with minute scales, and obscurely tinged with golden, a paler lateral vitta: head obscurely golden: eyes deep black: rostrum with a slightly elevated line: beneath deep black: antennæ blackish-brown; thorax obscurely golden, with minute, elevated, black dots: scutel golden: elytra with regular series of punctures; golden color more obscure than that of the thorax; tip of each, elongated into an obtuse caudiform projection: beneath obscurely golden, varied with black: feet fuscous, with short hair; [312] thighs dilated before the tip; a cinereous fascia on the two posterior pairs.

Length, from the anterior part of the head to the tip of the elytral processes, rather more than two-fifths of an inch.

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Found near Engineer Cantonment on the Missouri river. The caudal processes are peculiar to one sex.

[Belongs to *Listroderes*.—LEC.]

2. R. ARMICOLLIS.—Rufous; anterior thoracic angles with small spines.

Inhabits Missouri.

Body rufous, punctured; head punctured; an obsolete impression between the eyes; a dilated, impressed, abbreviated line over the insertion of the antennæ sometimes obsolete or wanting; thorax with much dilated confluent punctures; a polished longitudinal line near the middle; anterior angles with small erect spines, of which the anterior one is largest; posterior angles slightly excurved, anterior and lateral margins dull rufous; elytra light rufous, profoundly striated; striæ with approximate punctures: thighs with a robust spine beneath, near the tip.

Length from the eyes to tip of the elytra one-fifth of an inch.

Var. a. Thorax and beneath, excepting the feet, black.

Very closely allied to *Curculio barbitus* of Melsheimer's Catalogue, a species which is entirely black, whereas the elytra of *armicollis* are always [313] rufous. I obtained it on the banks of the Missouri, and Mr. T. Nuttall presented me with numerous specimens from the same country.

[A species of *Magdalinus*.—LEC.]

3. R. LINEATICOLLIS.—Thorax with longitudinal, confluent lines; elytra with elevated, acute, alternate, interstitial lines and double series of punctures.

Inhabits Arkansa.

Body black: head with dense, robust, short, prostrate, yellow hairs above; a carinate line from between the eyes to the middle of the rostrum: eyes approximate: rostrum from the base to the middle marked by about six impressed lines: thorax with numerous, elevated, longitudinal, confluent lines; a transverse, indented, anterior submargin; elytra with double series of large profound punctures, the interstitial lines elevated and very acutely edged: thighs one-toothed; posterior tibia one-toothed near the posterior tip, and ciliated between the tooth and tip.

Length (excepting the rostrum) nearly three-tenths of an inch.

Found near the Rocky Mountains.

[Belongs to *Rhyssematus*; vide ante 1, 279, 295.—LEC.]

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4. *R. CONSTRICTUS*.—Blackish, with cinereous scales; an impressed, transverse line between the eyes; elytra reddish-brown; thighs mutic; rostrum long.

Inhabits Missouri.

Body blackish, punctured, covered with oblong scales, not imbricate; vertex, punctures minute: [314] front, a profoundly impressed, transverse line between the eyes: eyes black, distant above, approximate beneath: rostrum cylindric, more than half as long as the body, regularly but slightly arquated from the base, impunctured; base above with depressed granules; tip piceous: antennæ placed rather behind the middle, piceous, darker in the middle: thorax densely punctured, punctures large, approximate; anterior margin obsoletely piceous: elytra, striæ profoundly indented, straight, punctures obsolete; interstitial lines dilated, depressed: feet obscure rufous; thighs mutic; tarsi blackish.

Length, from base of rostrum to tip of elytra, three-twentieths of an inch.

The impressed frontal line connects the eyes, and is very profound.

[A species of *Errhinus*.—LEC.]

5. *R. INTERSTITIALIS*.—Black, punctured; elytra striated, interstitial lines with punctured series.

Inhabits Missouri.

Curculio striatus Melsh. Catal.

Body deep black, immaculate, nearly naked, punctured; punctures orbicular, concave, polished within, distinct: vertex with small, distant punctures: eyes remote above: front obtusely indented between the eyes: rostrum punctured, arquated: thorax, excepting at the anterior margin, as broad as the elytra; a dorsal, obsolete line destitute of punctures: scutel transverse, inequal: elytra deep brownish-black; striæ profoundly impressed, transversely [315] punctured; interstitial lines superficially depressed, each with one or two series of orbicular punctures, furnishing short white hairs: tibiæ and tarsi piceous; terminal articulation black: anus naked.

Length, base of rostrum to tip of elytra, from more than three-twentieths to less than one-fourth of an inch.

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This is also an inhabitant of Florida and Pennsylvania. The name *striatus* is preoccupied in this genus.

[Belongs to *Baridius*.—Lec.]

6. *R. UNDULATUS*.—Sanguineous, polished; elytra, abdomen, and feet, black.

Inhabits Arkansa.

Body polished, punctured, sanguineous: rostrum black, arquated, as long as the thorax: thorax dilated; punctures minute and distant, on each side confluent into oblique lines; anterior margin abruptly narrowed into a collar: elytra black, undulated, immaculate; striæ very narrow, profound, not distinctly punctured: postpectus, venter, and feet black, the latter scabrous.

Var. a. Totally black. Pennsylvania.

Length exclusive of the rostrum, one-fifth of an inch.

The elytra of this species are remarkably undulated. For specimens from Arkansa I am indebted to Mr. T. Nuttall. [316]

[Belongs to *Madarus*.—LEC.]

LIPARUS Oliv. Leach.

CUCULIO Linn.

1. *L. VITTATUS*.—Cinereous; rostrum trisulcated; elytra, with the suture and three lines, blackish.

Inhabits Arkansa.

Body densely covered with minute, cinereous scales, with a very slight tinge of carneous: head with a dusky, dilated, lateral line: rostrum profoundly and widely sulcated in the middle, and on each side over the interval between the eye and insertion of the antennæ: mouth black: antennæ, club dusky: thorax somewhat inequal, with distant, profoundly impressed punctures: three dusky, longitudinal lines: elytra with regular series of profound punctures; dilated suture, and three slightly elevated lines on each elytron, blackish: beneath immaculate.

Length more than half an inch.

Nut uncommon upon the arid and sterile country, included within the distance of four or five hundred miles of the Rocky Mountains. The anterior feet are the most robust, and each alternate interstitial line of the elytra is a little elevated and blackish.

[Belongs to *Ophryastes*.—LEC.]

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2. *L. SULCIROSTRIS*.—Cinereous; rostrum trisulcated, transversely indented at base; elytra striate.

Inhabits Arkansa.

Body densely covered with minute, cinereous scales: head with black punctures; transversely [317] indented or contracted at the origin of the rostrum: rostrum trisulcated, grooves profound, middle one dilated, wider before: mouth and club of the antennæ blackish: thorax inequal, with irregular rugæ and punctures; a longitudinal, impressed line: elytra acutely striated, and with dilated, slightly indented punctures all covered with cinereous scales: beneath immaculate: anterior feet more robust.

Length seven-twentieths of an inch, exclusive of the rostrum.

Found in the same districts with the preceding species, which it resembles, but is smaller; the elytra are destitute of blackish lines, and the punctures and striæ are altogether different.

[Also an *Ophryastes*.—LEC.]

3. *L. IMBRICATUS*.—Body covered with minute scales, punctured; a profound, frontal puncture.

Inhabits Arkansa.

Body covered with dense, minute, somewhat imbricated scales, without intervals; above dusky brassy or blackish, punctured: head with a profound puncture between the eyes: rostrum with a dusky line in the middle: thorax, a dorsal, slightly impressed, punctured line, and several dilated, indented punctures covered with scales; a dilated, cinereous, dorsal line: elytra with very slightly impressed striæ containing profoundly impressed punctures; sides and tip white, the latter exhibiting an undulated outline above; three subequidistant, equal, white spots each side of the suture, [318] and another at the middle of the base; an oblique line from behind the humerus terminates at the middle.

Length three-tenths of an inch.

Near the Rocky Mountains, and on the Missouri. This species varies in depth of coloring, and the cinereous, subsutural spots are sometimes confluent with branches from the margin, so as to form three cinereous bands, but I believe that the spots at base are always insulated.

[Belongs to *Epicærus*.—LEC.]

4. *L. TESSELLATUS*.—Imbricate, cinereous, varied with brown-

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ish; head with a longitudinal, impressed line; elytra with punctured striæ.

Inhabits Missouri.

Body covered with imbricate scales; cinereous, obsoletely varied with brownish or dull brassy, punctured; head brassy, polished; an impressed, longitudinal line: eyes black: antennæ piceous: thorax, longitudinal and transverse diameters subequal; a dilated, double, somewhat confluent, dorsal, brownish line, with an undulated, lateral outline occupying nearly all the surface: scutel very minute: elytra varied with cinereous and brownish, with equidistant, indented, punctured striæ; interstitial lines equal, with whitish, distant, very short, filiform hairs: abdomen blackish.

Length three-twentieths of an inch.

Found on the banks of the Mississippi and lower part of the Missouri.

[Say, ante 1, 268, states that this belongs to *Thylacites*, subgenus *Strophosomus*.—LEC.] [319]

CALANDRA Clairv. Fab.

C. COMPRESSIROSTRA.—Castaneous; rostrum compressed; a profound, frontal puncture; thorax with two punctured lines converging to the scutel.

Inhabits Arkansa.

Body dark chestnut-brown passing to blackish: head with small, distant punctures, larger ones on the base of the rostrum which decrease in size to the tip; a profoundly, impressed, large puncture between the eyes: rostrum very much compressed, acutely carinate above: antennæ at tip rufous: thorax with larger punctures on the side, on the anterior impressed submargin, and on two indented lines which originate each side of the middle, and converge to the suture: elytra with crenate striæ, interstitial lines each with a series of punctures: tibia with a very robust, obtuse spine, and setæ below the interior middle.

Length less than three-tenths of an inch.

Near the Rocky Mountains.

[Ante, 1, 20.]

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APATE Fabr.

1. *A. BICORNIS*.—Dark brown, varied with cinereous: thorax asperous, bicornute before; posterior angles prominent.

Inhabits the United States.

Apate bicornis Melsh. Catal.

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Body blackish-brown varied with cinereous; with robust, scale-like hairs: head equal: eyes prominent, reddish-brown: antennæ and palpi ferruginous: labrum fulvous: thorax declivous before and behind; anterior half and lateral margin armed with numerous short spines; anterior angles projected over the head in the form of parallel horns; posterior angles elongated backward in the form of tubercles; two hardly elevated tubercles on the middle of the base: scutel rounded, cinereous: elytra, each with two elevated lines, of which the inner one is the most prominent and acute, with the blackish-brown and cinereous colors somewhat alternate; tip near the sutural termination mucronate or only angulated: beneath dark reddish-brown.

Length two-fifths of an inch.

Found above the mouth of the Ohio. I have a specimen in my cabinet which is rather smaller; the elevated lines of the elytra hardly prominent. Seems to have some affinity with *Apate cornutus* of Fabr.

[Belongs to *Bostrichus*, as restricted by Lacordaire, Gen. Col. 4, 539.—LEC.]

2. *A. BICAUDATUS*.—Dark reddish-brown; thorax asperous and bicornate before; a prominent, obtuse spine near the tip of the elytra.

Inhabits the United States.

Apate cornutus Melsh. Catal.

Body dark reddish-brown: head with long pubescence: eyes prominent: antennæ and palpi ferruginous: labrum fulvous: thorax declivous before [321] and behind, anterior moiety armed with numerous short spines; anterior angles projecting over the base of the head, armed with spines above; posterior angles rounded, not prominent; elytra near the tip, with a very prominent, obtuse, slightly inflected spine on each; edges at tip a little reflected: wings whitish: feet reddish-piceous.

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Female.—Anterior angles of the thorax slightly projecting an oblique, hardly elevated line, instead of the elytral spine.

Length less than seven-twentieths of an inch.

Found above the mouth of the Ohio. Resembles the preceding species, but is destitute of the prominent, posterior, thoracic angles so conspicuous in that insect, and the male is armed with a prominent, cylindrical, obtuse spine above the tip of the elytra. The specific name *cornutus* has been given to an inhabitant of Madagascar.

[Also a *Bostrichus*.—LEC.]

3. *A. BASILARIS*.—Black; elytra rufous at base, retuse and tridentate at tip: thorax asperous before.

Inhabits the United States.

Apate humeralis Knoch in Melsh. Catal.

Body black: head equal: eyes prominent, somewhat reflected: antennæ and palpi rufous: labrum fulvous: thorax declivous, and armed with numerous short spines before; angles rounded: scutellum minute, orbicular; elytra with large dense punctures which are more dilated towards the tip; a large rufous spot on the middle of the base: tip [322] retuse, with a few large punctures; lateral edge tridentate: teeth triangular, acute; sutural and terminal edges elevated: wings black: beneath impunctured: tibia and tarsi blackish-rufous.

Length one-fifth of an inch.

On the Ohio, Mississippi, Arkansa. The name *humeralis* is preoccupied.

[Belongs to *Sinoxylon*.—LEC.]

HYLESINUS Latr.

H. ACULEATUS.—Varied with cinereous and fuscous; thorax with three black lines; elytra aculeate.

Inhabits Missouri.

Anobium maculatum ? Melsh. Catal.

Body varied with blackish-brown and yellowish-cinereous short hair: head confluent punctured; a slightly elevated, longitudinal, frontal line: antennæ pale rufous: thorax, punctures much dilated, slightly impressed; a dilated, longitudinal, fuscous line each side, and a much dilated one in the middle: elytra somewhat trifasciate with yellowish-cinereous; an obsolete band at base; the second beyond the middle oblique and abbreviated, 1824.]

and the third near the tip oblique and interrupted; striæ profound, acute: interstitial lines armed with minute, elevated points; basal edge somewhat elevated, acute.

Length three-twentieths of an inch.

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SCOLYTUS Latr.

1. *S. 4-SPINOSUS*.—Black; elytra brown; venter four-spined.

Inhabits Missouri.

Head depressed above, lineated with minute, abbreviated, longitudinal lines; coronated with long, incurved, dull-yellowish hairs on the margin; antennæ pale rufous: thorax punctured, black-brown: elytra reddish-brown, truncated, with impressed, punctured striæ, and an obsolete series of punctures on the interstitial lines; tip denticulated: venter obliquely truncated, deep black, opaque, four-spined; spines conic-acute, placed 3, 1, the latter smaller.

Length more than one-fifth of an inch.

2. *S. MUTICUS*.—Black, hairy; venter unarmed.

Inhabits Missouri.

Body deep brownish-black, punctured, hairy; head, above depressed, plane, lineated with minute longitudinal lines, and coronated with incurved, yellowish hairs on the margin: antennæ pale rufous: elytra with numerous long hairs, truncate, and slightly denticulated at tip: numerous punctured, hardly impressed striæ: venter obliquely truncated, mutic, furnished with long hairs: posterior tibia with long hairs behind.

Length from three-twentieths to one-fifth of an inch. [324]

Resembles the preceding, but is distinguished at once by the mutic venter and the more numerous striations of the elytra.

PLATYPUS Herbst, Latr.

P. COMPOSITUS.—Reddish-brown; each elytron with a terminal, tridentate elongation.

Inhabits Missouri.

Body reddish-brown: eyes dusky: antennæ, terminal joint dilated, compressed, oval, nearly as large as the eye; elytra profoundly striated; striæ punctured; punctures subquadrate, approximate, slightly indented; tip of each elytron with two small longitudinal teeth and an elongated process, which is tridentate;

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intermediate tooth emarginate: feet dilated, compressed; anterior thighs angulated in the middle beneath, and with a projecting lobe near the inferior tip; anterior tibia with five elevated, dusky, transverse, obliquely arquated lines on the exterior side, of which the fifth is nearly terminal and distant from the others: tarsi elongated; basal joint very long, penultimate one very short.

Length one-fifth of an inch.

Resembles *Scolytus flavicornis* of Olivier, but is readily distinguishable by the form of the terminal spine of the elytra. [325]

COLYDIUM Fabr. Latr.

C. BIPUNCTATUM.—Blackish-brown; anterior tibia angulated before; intermediate ones five or six spined.

Inhabits Upper Missouri.

Body elongated, linear, punctured; punctures minute, regular, distant: antennæ piceous: thorax longitudinally oblong, subquadrate angles rounded: lateral edges slightly arquated: scutellum obtusely triangular: elytra with punctured striæ; an obsolete, subsutural, piceous spot on each before the tip: anal segment naked: feet piceous; anterior tibia with a slightly projecting angle on the anterior middle; intermediate tibia five or six spined on the anterior edge; posterior ones mutic.

Length one-ninth of an inch.

The spots on the elytra are hardly perceptible, excepting in a particular light, and are even then obsolete.

[Belongs to *Ips*.—LEC.]

LATRIDIUS Herbst.

L. 8-DENTATUS.—Dark reddish-brown; thorax dentate each side, and with an indented spot behind the middle.

Body dark reddish-brown: eyes black: thorax suborbicular, seven or eight-toothed each side; a profoundly indented, large spot on the basal submargin: [326] elytra with approximate series of punctures: feet yellowish-piceous at base.

Length nearly three-fortieths of an inch.

Caught above the confluence of the Platte with the Missouri river.

[A species of *Corticaria*.—LEC.]

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PRIONUS Geoff. Fabr. Oliv. Latr.

1. *P. DASYSTOMUS*.—Reddish-brown; head black; thorax denticulate each side; teeth small; labrum and mandibles within with ferruginous hair.

Inhabits the lower part of the Missouri river.

Body reddish-brown, punctured: head black; punctures profound; a longitudinal, impressed line: eyes black-brown; a small tubercle over the insertion of the antennæ, and a larger, compressed, emarginate one at the outer base of the mandibles: antennæ compressed, punctured, mutic, short; labrum and mandibles within with dense, rufous hair: palpi piceous: thorax with crowded, irregular, minute, profound punctures; an impunctured large spot each side of the middle; a transverse one on the middle of the base, and one or two oblique, abbreviated lines each side; lateral edge dentated with from 5 to 14 small teeth; elytra mucronate; punctures obsolete: beneath paler; region of the mouth rugose with confluent punctures: postpectus with yellowish hair: tarsi yellowish.

Length one inch and three-tenths.

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This species, in habit, approaches *P. cylindricus* and *cilipes*, but is at once distinguished from both, besides other characters, by the very hairy appearance of the labrum, and of the inner side of the labrum [mandibles].

[Belongs to *Mallodon*.—LEC.]

2. *P. EMARGINATUS*.—Castaneous, hairy; thorax one-toothed; antennæ fourteen-jointed.

Inhabits Arkansas.

Body castaneous: head, thorax and breast covered with long yellowish-ferruginous hair: antennæ fourteen-jointed, glabrous, perfoliate, imbricate; the imbrications emarginate beneath; mandibles black at tip: thorax but slightly margined, one-toothed on the middle of the lateral edge: angles obtusely rounded: elytra somewhat inequal, punctured: feet and venter subglabrous.

Length nearly seven-tenths of an inch.

Female glabrous; antennæ simple.

Length four-fifths of an inch.

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This species exhibits the general form of *brevicornis*, but the the thorax is proportionally much narrowed, and the characters above detailed prove it to be very distinct from that species. The lepaceous processes of the antennæ are so profoundly emarginate beneath as to appear each bilobate. I obtained it on the Arkansa river near the Mountains.

3. *P. PALPARIS*.—Black; thorax tridentate; terminal joint of the maxillary palpi longer than the preceding one. [328]

Inhabits the upper part of the Arkansa river.

Body black, immaculate, punctured; head confluent punctured; an impressed, longitudinal line: maxillary palpi with the last joint longer than the penultimate one: thorax, punctures rather more-sparse on the disk; lateral margin not dilated; edge tridentate; anterior tooth a slight prominence of the anterior angle; intermediate one acute, subconic, spiniform, not reflected; posterior tooth not prominent, and consisting only of the posterior angle: elytra slightly punctured, nearly smooth; tip slightly mucronate: pectus and postpectus of the male hairy; hair yellowish.

Length, male one and one-fifth, female one and a half inches nearly.

I observed several specimens of this species on the Arkansa near the Mountains. It resembles at first sight *P. brevicornis* Fab., but it differs from that insect in some important characters, the elytra are much smoother, the thorax is not so broadly margined on each side, the intermediate thoracic tooth is more spiniform; but the most characteristic difference appears to reside in the maxillary palpi the terminal joint of which is very conspicuously longer than the preceding joint, whilst the corresponding parts of *imbricornis* are nearly equal.

4. *P. CILIPES*.—Castaneous; thorax minutely dentate; tibia ciliate on the inferior edge.

Inhabits Platte and Arkansa rivers.

Body castaneous, punctured; head thorax and [329] extremities blackish: head with a longitudinal, impressed line; punctures sparse between the eyes, more dense before, upon the mandibles, basal joint of the antennæ, and becoming scabrous on the 1823.]

vertex and behind the eyes : antennæ, third joint rather shorter than the first : mandibles strongly dentate within : thorax broad, anterior lateral margin scabrous, with very crowded, minute punctures ; punctures of the disk sparse ; lateral edge irregularly dentated with very small, obtuse teeth ; an obtuse angle behind the middle : elytra punctured, destitute of elevated lines : postpectus with short yellowish hair : tibia densely ciliated with yellowish hair on the inferior edge.

Length one inch and three-fifths.

The specimen, from which this description is taken, is a female ; in general form it approaches *P. cylindricus*, but the thorax is broader and destitute of spiniform teeth ; the third joint of the antennæ is obviously shorter than the first, and the tibiæ are densely ciliated on the inferior edge. It is probably somewhat allied to the *P. dentatus* of Fabricius, judging from the description of that author.

[A species of *Mallodon*, afterwards described as *M. simplicicollis* Hald.—LEC.]

LAMIA.

1. *L. ACULIFERA*.—Thorax unequal ; elytra aculeate, with a white band behind.

Inhabits Missouri.

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Body blackish-brown, covered with short, prostrate, cinereous hair : head with a double slightly elevated line on the vertex : antennæ as long as the body, cinereous, spotted towards the base, and annulated towards the tip with brown : thorax unequal ; a dorsal, rectilinear, elevated line, and two undulated or interrupted ones ; lateral tubercle obtuse, little elevated : elytra unequal, with numerous, elevated, acute points ; behind the middle a white fascia broadest at the suture, and edged behind by a black line : tip entire : thighs clavate, spotted, and tibia biannulate with black-brown.

Length seven-twentieths of an inch.

This is a common species. I observed it on the banks of the Mississippi, Missouri, Platte (Nebraska) and Arkansa.

[I have placed this and several other species in a genus *Lep-tostylus*, Jour. Acad. Nat. Sc. 2d ser., 2, 168.—LEC.]

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2. *L. ASPERSA*.—Covered with cinereous hair; elytra with numerous black dots.

Inhabits Mississippi and Missouri.

Body reddish-brown or blackish, covered with cinereous hair: head black: antennæ longer than the body: thorax with a small, acute, reflected spine behind the middle each side, and with two or four black dots above placed in a transverse series, the two intermediate ones larger: elytra reddish-brown, with numerous black dots; tip emarginate, bidentate: beneath black, covered with cinereous hair: thighs clavate, pale reddish-brown at base.

Length less than one-fourth of an inch. [331]

This insect is not uncommon in the western regions. It varies a little in having the black elytral spots smaller, or in having some of them which are situated behind the middle, confluent into a band. I have taken a specimen of this insect near Philadelphia, at Harrowgate, the seat of my friend Mr. J. Gilliams, in a rye field.

[Belongs to *Liopus*.—LEC.] [403]

MONEILEMA* Say.

Essential character.—Elytra undivided; wings none.

Natural character.—Body convex: head vertical: antennæ eleven-jointed, [404] setaceous, inserted into a profound emargination of the eye; first joint elongated, robust; second joint very short, third nearly as long as the first; remaining joints gradually diminishing in length to the tip: eyes rather small, profoundly emarginate: labrum prominent, rounded: mandibles robust, emarginate at tip: palpi, terminal articulation as robust as the preceding one, rounded at tip: labiales inserted near the base of the labium: labium prominent, bifid; lobes rounded: elytra consisting of one piece, convex, subovate, narrowed behind, subtruncate at tip, and rather shorter than the abdomen: epipleura dilated, encasing the abdomen each side: feet robust: thighs clavate.

M. ANNULATA [ANNULATUM].—Thorax with a very short tubercle; antennæ annulate.

Inhabits Missouri Territory.

* Signifying one covering.

Body glabrous, black : antennæ shorter than the body, obsoletely annulated with cinereous : front impunctured : thorax slightly punctured at base and each side ; a lateral, small, subacute tubercle : scutel rounded at tip ; elytra with numerous, indented, irregular, longitudinal, abbreviated, confluent lines ; a few distant punctures towards the base.

Length four-fifths of an inch.

This singular insect I found near the Rocky [405] Mountains, and in the vicinity of the rivers Platte (Nebraska) and Arkansa. Mr. Nuttall also obtained specimens on the Upper Missouri.

It is essentially distinct from the genus *Lamia*, (to which it is most closely related,) by the total absence of wings, and by having the elytra inseparably united into one piece. The epipleura embrace the sides of the abdomen, as in the genus *Pimelia*, &c. and its gibbous or convex form and somewhat pointed abdomen give to it almost the habit of some species of that genus.

SAPERDA.

1. *S. ALTERNATA*.—Blackish, with cinereous hair and ferruginous spots ; thorax long.

Inhabits the United States.

Body blackish-brown, with sparse, cinereous, prostrate hair, varied with spots and lines of dense ferruginous hair : head, with the edge around the antennæ, much elevated, somewhat spinose on the inner side ; between the antennæ profoundly indented : antennæ longer than the body, attenuated : thorax cylindric, rather long, narrower than the elytra ; with four ferruginous lines ; elytra with three or four series of irregular, ferruginous spots : tip rounded.

Length, male seven-twentieths, female nine-twentieths of an inch.

The marginal and sutural series of elytral spots [406] more regularly alternate with the intervening colors than the intermediate series do.

It somewhat resembles Olivier's figure of *S. maculata*, but the thorax is much shorter, and the spot are differently disposed.

[Belongs to *Dorcaschema* Lec.—LEC.]

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2. *S. PUNCTICOLLIS*.—Yellow; beneath plumbeous; elytra black, with a yellow margin and suture.

Inhabits Arkansa.

Body covered with bright yellow, crowded, short, prostrate hair: head with a black, frontal dot, and another upon the vertex: antennæ as long as the body, black: thorax with four black, equal spots above, and one each side: elytra black and punctured upon the disk; exterior margin, tip, and suture with an equal line of dense yellow hair; tip entire: beneath plumbeous.

Length seven-twentieths of an inch.

A very pretty insect, of which but a single specimen was found by Mr. T. Nuttall on the Arkansa.

[Afterwards described as *S. trigeminata* Randall.—LEC.]

3. *S. OCULATICOLLIS*.—Black, covered with cinereous hair: elytra truncate at tip.

Inhabits Missouri.

Body black, immaculate, cylindrical, covered with short prostrate hair, which partially conceals the punctures: palpi piceous; antennæ rather shorter than the body: thorax cylindric, diameters nearly equal; two small glabrous spots on the disk, and an obsolete, glabrous, longitudinal line; elytra truncate at tip.

Length nine-twentieths of an inch.

[Belongs to *Oberca*.—LEC.]

4. *S. INORNATA*.—Black, covered with cinereous hair; antennæ annulate; elytra entire.

Inhabits Missouri.

Body black, immaculate, cylindrical, covered with short, prostrate hair, which conceals the punctures: palpi black: antennæ rather shorter than the body, and, excepting the basal joints, annulate, with cinereous and black: thorax cylindric, diameters subequal: elytra entire and subacute at tip, which is equally attenuated from the suture and exterior margins.

Length less than nine-twentieths of an inch.

The entire termination of the elytra sufficiently distinguishes this species from the *oculaticollis*, and it is also a more robust species; it is, however, still more closely allied to the *S. pergrata*, but in addition to the difference in the color of the femur, and that of the margins of the elytra, the elytra are much less obtuse 1823.]

at tip, and the thorax is entirely destitute of glabrous spots. It cannot be the *cinerea* Oliv., as the antennæ of that insect are described to be as long again as the body.

[I have not identified this insect.—LEC.]

5. *S. PERGRATA*.—Black, covered with cinereous hair; antennæ annulate; elytra entire; thorax with small glabrous spots.

Inhabits Missouri.

Body black, covered with short, prostrate hair, which partially conceals the punctures: antennæ nearly as long as the body, annulate, with cinereous and black: thorax slightly dilated in the [408] middle; a transverse, arquated series of four glabrous spots, and a longitudinal, abbreviated, glabrous line behind the middle: scutel whitish: elytra with a narrow white margin and suture; tip entire: thighs dull rufous.

Length about nine-twentieths of an inch.

Upon the middle of each elytron is a very indistinct, rufous line, which is only visible upon close inspection, and is very probably often wanting; a similar spot is upon the anterior portion of the thorax; the white appearance of the margin of the elytra is occasioned by the more dense disposition of the hairs on that part. We captured but a single specimen on the Platte river (Nebraska) near the mountains.

[Belongs to *Stenostola*.—LEC.]

6. *S. CALCARATA*.—Reddish-brown, covered with cinereous and yellow hair; elytra mucronate at tip.

Inhabits Missouri Territory.

Body clothed with dense, prostrate, cinereous hair, varied with yellow or somewhat ferruginous hair: front, a geminate line on the vertex and lateral line, yellow: antennæ cinereous, longer than the body: thorax trilineate with yellow: scutel yellow, sub-emarginate behind: elytra cinereous, varied with yellow-ferruginous lines and spots; numerous small glabrous punctures; tip mucronate in the middle; humerus rather prominent.

Length nearly nine-tenths of an inch.

Closely related to *S. mutica*.

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7. *S. BIVITTATA*.—Hoary; above light brown, with two broad white fillets.

Inhabits the United States.

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Body white : eyes fuscous ; a small spot on the vertex, and another behind each eye, light brown : antennæ moderate, slightly tinged with bluish : thorax light brown, with two broad, white lines approaching before : elytra light brown, irregularly punctured ; a broad, white, longitudinal line on each, nearer to the suture than to the outer edge.

Length from one-half to seven-tenths of an inch.

A very pretty insect. In the larvæ state it is very injurious to the apple tree ; boring into the wood.

[Previously described by Fabricius as *S. candida*.—LEC.]

8. *S. MUTICA*.—Reddish-brown, covered with cinereous and ferruginous hair ; elytra mutic ; antennæ annulated.

Inhabits Missouri Territory.

Body dark reddish-brown, partially covered with cinereous-yellow, prostrate hair, varied with ferruginous hair : front, and a geminate line on the vertex, ferruginous : antennæ annulate, with cinereous and blackish ; shorter than the body : thorax trilineate, with ferruginous : scutel yellow, subemarginate behind : elytra with yellowish-cinereous hair, varied with ferruginous spots ; numerous glabrous punctures ; tip mutic, obtusely sublanceolate.

Length half an inch.

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Very much resembles *S. calcarata*, and may possibly prove to be a sexual variety, nevertheless the differences are remarkable ; in the present insect the antennæ are shorter than the body, and annulated, and the elytra are destitute of a spinose point at tip.

[A very distinct species.—LEC.]

CERAMBYX Fabr.

C. SOLITARIUS.—Black ; thorax bituberculate each side ; elytra destitute of elevated lines.

Inhabits Upper Arkansa.

Body deep black, immaculate, punctured : head with a longitudinal, impressed line between the eyes ; front transversely indented, and with one or two small, abbreviated, elevated, transverse lines ; a slight tubercle at the inner base of the antennæ : antennæ long ; basal joints a little hispid beneath : labrum piceous : thorax, with three very obtuse, hardly elevated tubercles behind, placed transversely ; lateral edge with two tubercles, of which the anterior one is more obtuse, and the posterior one is

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slightly reflected : scutell acute : elytra destitute of any prominent line ; punctured ; punctures enclosed by minute, irregular, indented lines : pectus, punctures very minute : venter, posterior margins of the segments highly polished.

Length one inch and three-tenths.

Appears to be a rare insect. I found but one specimen on the Arkansa river near the mountains. [411] The elytra to the eye have a smooth appearance, and, with the body, are totally black.

[I described this species as a new genus *Smileceras*, but afterwards recognized the identity of the genus with *Stenaspis*.—LEC.]

CALLIDIUM Fabr.

1. *C. DISCOIDEUM*.—Rufous ; head, postpectus, feet, and dilated sutural mark, black.

Inhabits Mississipi.

Body bright rufous, punctured : head black, confluent punctured ; an elevated line between the antennæ : antennæ tinged with brownish, rather shorter than the body : thorax convex, rounded ; punctures profound, equally disseminated ; hairs erect : scutell small, black : elytra with approximate, regular punctures, and very short, obsolete hair ; a large, sutural, black, common mark, occupying more than half the superficies ; it is contracted near the base, and still more dilated at tip ; tip rounded, entire : postpectus and feet black.

Length less than half an inch.

[Allied to *Eriphus*.—LEC.]

2. *C. SUTURALE*.—Rufo-sanguineous, hairy ; antennæ, suture, postpectus and feet, black.

Inhabits Mississippi.

Body bright rufo-sanguineous, hairy, punctured : antennæ rather shorter than the body, and with the orbits black : thorax convex, with long black hairs ; punctures sparse, obsolete on the disk : scutell small, black : elytra with long black hairs, which are erect at base, and prostrate at tip of the elytra ; punctures rather distant, furnishing [412] hairs ; suture with a black common line ; tip rounded, entire : postpectus black : anterior and intermediate thighs black in the middle.

Length seven-twentieths of an inch.

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This species very much resembles *C. discoideum*, but is much smaller; and besides other differences, the punctuations of the head and thorax are very distinct both in point of form and position, being crowded and rounded in *discoideum*, and comparatively distant in the present species.

[Of the same genus as the preceding.—LEC.]

3. *C. IGNICOLLE*.—Black; thorax bright rufous.

Inhabits Missouri.

Body black, hairy, punctured: antennæ shorter than the body; the joints extending into a small angle on their anterior tips: thorax rounded, convex, bright rufous, with upright, prominent hair: scutel black: elytra punctured, hairy; the hairs upright at base, and prostrate near the tip of the elytra; tip entire.

Length rather more than nine-twentieths of an inch.

[Also of the same genus.—LEC.]

4. *C. PALLIDUM*.—Whitish; thoracic lineations and elytral fasciæ brown.

Inhabits Arkansa.

Body whitish, slightly tinged with yellow: eyes black: vertex brown: antennæ, joints tipped with brown: thorax contracted behind; anterior margin brown; an obsolete, abbreviated line in the middle, and a lateral one which is dilated before, or somewhat cruciate, brown; a very obtuse, hardly [413] elevated, lateral tubercle: elytra four-banded, with brown; anterior band transverse, abbreviated; second very oblique and linear, third dilated and undulated, fourth linear and placed near the tip; thighs clavate.

Length more than one-fifth of an inch.

[Allied to *Obrium*: subsequently described as *Phyton limum* Newman, and *Diozodes pallida* Hald.—LEC.]

5. *C. AMOENUM*.—Rufous; elytra violaceous, punctured.

Inhabits the United States.

C. bicolor Melsh. Catal.

Body rufous, with short hair, punctured: antennæ black: thorax subinequal, polished; punctures very numerous on each side; less numerous on the disk; scutel rufous: elytra violaceous, with confluent, excavated punctures, furnishing short, black hairs; tip rounded: tibia and tarsi black.

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Length one-fourth of an inch.

Very much resembles *C. foenicum*, but is much smaller, and the elytra are very obviously punctured. We obtained specimens on the Arkansa river; it is also an inhabitant of Pennsylvania. The name *bicolor* is preoccupied by an insect of South America.

6. *C. BREVILINEUM*.—Black; thorax bituberculate; elytra violaceous, with three abbreviated, white lines.

Inhabits the United Sates.

Body black, scabrous, with small, elevated points: head with an impressed, longitudinal line: antennæ nearly as long as the body: palpi piccous: [414] thorax with dense, minute hairs; two elevated, obtuse tubercles behind the middle and an intermediate, elevated line, obsolete before: scutel hairy, rounded: elytra violaceous, scabrous, with minute, subequal, numerous tubercles; base dusky, with minute hairs; two or three longitudinal, elevated, white lines on the middle, nearly parallel, and placed in an obliquely transverse series; tip obtusely rounded: thighs clavate.

Length, male nine-twentieths; female seven-tenths of an inch nearly.

I found a specimen in Pennsylvania some time since, and recently an individual occurred on the Arkansa river. The white lines of the elytra are very short, and nearly parallel to each other; nearer to the base is sometimes another abbreviated white line.

7. *C. FULVIPENNE*.—Deep black, hairy; elytra fulvous.

Inhabits Arkansa.

Body deep black, covered with dense black hair: antennæ rather longer than the body, somewhat hairy: palpi glabrous, deep reddish-brown: thorax, above with four obsolete tubercles, and an intermediate, abbreviated, glabrous, longitudinal line; a slightly prominent, lateral spine: scutel hairy, black: elytra yellowish-fulvous, covered with dense, very short, prostrate hair; four longitudinal, slightly elevated lines.

Length three-fifths of an inch.

[415]

I obtained but a single specimen of this beautiful species. It occurred at the Cherokee settlement on the Arkansa river. It

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approaches the description of *Cerambyx cbulinus* of Fab., but, according to Olivier, that insect, which he names *Stenocorus testaceus*, has the antennæ only a little more than half the length of the body.

[Belongs to *Tragidion*, and seems to be a variety of *T. coquus*.—LEC.]

8. C. 6-FASCIATUM.—Black, varied with short, dense, prostrate, yellow hair; margin of the thorax, scutel, and four elytral fasciæ yellow.

Inhabits Missouri.

Body black, punctured, with a few long hairs: head, beneath rufous, above with yellow hair: antennæ ferruginous, nearly as long again as the body, and hairy beneath and towards the base; basal joint dilated, punctured; mandibles black at tip: thorax deeply margined, with dense yellow hair; transverse disk black, with two hardly elevated, obtuse tubercles, and an intermediate, longitudinal line, and a lateral, very obtuse, hardly elevated tubercle each side behind the middle; a transverse, anterior and posterior groove: scutel yellow: elytra, each 4-fasciate; fasciæ yellow, equidistant, subequal; two anterior ones bent obliquely forward from the suture; the two posterior ones retrofracted, the last one terminal; apex of each elytron emarginate: pectus and postpectus with yellow hair and black incisures: feet rufous: thighs dilated, compressed: abdomen fasciate with yellow. [416]

Length, male three-fourths; female seven-eighths of an inch

Found under the bark of a decaying elm, on Loutre island, Missouri river.

[This is the type of *Dryobius* Lec. Journ. Acad. Nat. Sci., Phila., 2d ser. 2, 23.—LEC.]

LEPTURA Latr.

1. L. BIVITTATA.—Elytra pale yellowish-white, with two black vitta on each.

Inhabits Missouri.

Head black, with much crowded punctures; an impressed line between the antennæ: antennæ as long as the body: thorax slightly punctured; two longitudinal black spots, and an anterior posterior submarginal, impressed line, and an obsolete, dorsal, longitudinal one; an obtuse, slightly elevated, lateral tubercle: 1824.]

scutell black: elytra densely punctured, rounded at tip, with two longitudinal, blued-black lines on the disk of each: beneath black; sides of the pectus, margins of the ventral incisures, and middle of the thighs, rufous.

Length two-fifths of an inch.

This insect, which is not very uncommon in the vicinity of Council Bluff and the Pawnee villages, bears some resemblance to the *vittata* of Swederus in Stockh. Trans. 1787, p. 198, and of Hellwig in Melsh. Catal., but in that insect there is but a single elytral vitta. In many other characters it is widely distinct, and approaches somewhat in [417] character to the genus *Rhagium*. It varies in having an immaculate thorax and rufous clypeus.

[Unknown to me.—LEC.]

2. L. CYLINDRICOLLIS.—Sericeous, rufous; elytra, tibia, and tarsi blackish.

Inhabits the United States.

Rhagium sericeum Knoch in Melsh. Catal.

Body sericeous, yellowish-rufous: head with a longitudinal, indented line, and a transverse, elevated one between the antennæ: antennæ rather longer than the body: palpi blackish: thorax long, subcylindric, with a longitudinal, dorsal, and anterior and posterior, impressed, submarginal lines: elytra blackish, attenuated rectilinearly or somewhat concavely from the prominent humerus to the obliquely emarginate or bidentate tip: feet rufous: knees, tibia and tarsi, black.

Length, male more than half an inch; female more than three-fifths.

In the male the head is often dusky, and the thorax, with the exception of the more elevated part, and the coxæ, are blackish.

In the general appearance of the head and thorax of this insect, it is closely allied to the genus *Rhagium*, and has been referred to that genus by Mr. Melsheimer in his *Catalogue*; but as the thorax is destitute of armature, and the antennæ are longer than the body, I prefer giving it a place in the present genus, agreeably to the generic characters of Latreille and Leach. I think it ought [418] to form a distinct genus, together with *Rhagium trivittatum*.

It is rather rare. The trivial name, applied by Mr. Knoch, is pre-occupied in this genus.

[A species of *Toxotus*, afterwards described as *T. dives* Newman; a variety of it is *T. atratus* Hald.—LEC.]

3. *L. BICOLOR*.—Rufous, sericeous; elytra black.

Inhabits the United States.

Leptura bicolor Melsh. Catal.

Body elongated, pale rufous, sericeous: head with an obsolete, impressed line: antennæ as long as the body: thorax conical; posterior angles acute: elytra black, attenuated; with numerous short, prostrate, black hairs; tip very obliquely emarginate, appearing mucronate: wings black.

Length from half an inch to three-fifths.

This species is found in Pennsylvania, and on the Ohio and Mississippi rivers. It may be allied to the *L. bicolor* of Swederus in Stockholm Trans. 1817, p. 197, but his insect is said to be black on the upper part of the tail, a character which our insect does not possess. In Turton's translation of the Syst. Nat., the name *bicolor* of Swederus is changed to *bicolorata*, so that Mr. Melsheimer's designation may be retained for the species here described.

4. *L. RUBRICA*.—Black; elytra and abdomen rufous.

Inhabits the United States.

Leptura rubrica Knoch in Melsh. Catal.

Body black, punctured, with numerous short hairs above, and sericeous beneath: head obsoletely punctured: antennæ as long as the body; [419] six terminal joints fulvous at base: thorax confluent punctured; punctures dilated; a transverse groove on the hind margin: scutellum small, black: elytra rufous or dull brick red; punctures numerous, becoming smaller to the tip, which is emarginate, mutic: beneath black: abdomen rufous; of the female, black.

Length about half an inch.

This insect occurs on the Missouri. It is found in Pennsylvania, but I have not frequently observed it.

5. *L. 8-NOTATA*.—Black, hairy; elytra each four-spotted.

Inhabits Mississippi.

Body deep black, with upright hairs: head rather large, with 1824.]

an impressed, longitudinal line: antennæ not longer than the body: thorax subcylindric: elytra polished; each elytron with four subtriangular, equidistant, yellow spots; the basal one at the base, and the terminal one near the tip; hair near the tip shorter, and nearly prostrate; tip truncate, mutic: posterior feet, with the base and tarsi, yellowish.

Length less than half an inch.

But a single specimen of this species was taken by Mr. Nuttall on the Mississippi.

[Afterwards described as *L. stictica* Newman, and *L. 4-punctata* Hald.—LEC.]

6. *L. LUGUBRIS*.—Black; sericeous beneath; antennæ shorter than the body.

Inhabits Lower Missouri.

L. scutellum-album? Knoch in Melsh. Catal. [420]

Body deep black, immaculate, with short, prostrate hairs above, and yellowish-sericeous ones beneath: head with an elevated line between the antennæ: antennæ rather shorter than the body: thorax conical; posterior margin grooved; posterior angles acute: scutel with yellow hair: elytra attenuated; tip obliquely truncate, subemarginate; the external angle acute and prominent, the inner one rounded.

Length rather more than two-fifths of an inch.

Two specimens of this species were taken by Mr. T. Nuttall on the banks of the lower part of the Missouri.

7. *L. PROXIMA*.—Black; elytra testaceous, with a black tip.

Inhabits Missouri.

Body deep black, hairy: antennæ nearly as long as the body: thorax rounded or subovate; a transverse groove on the posterior margin, and an impressed line on the anterior margin: elytra testaceous, with very short, yellowish hairs; tip black, truncate on the edge: beneath, with long hair on the pectus, and short hair a little sericeous on the postpectus and venter: tail entire.

Length less than three-fifths of an inch.

Var. a. Elytra testaceous, destitute of the black tip.

I have not seen this insect in Pennsylvania. It seems to be very closely allied to *L. tomentosa* Fab., but is larger, more robust, and the tail is not [421] emarginate as that of *tomentosa*.

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The variety may prove to be a distinct species, bearing a similar relation to *proxima* that the *testacea* of Linné does to the *tomentosa*.

8. *L. LINEOLA*.—Black; elytra punctured; suture, margin and vitta, black.

Inhabits the United States.

Leptura lineola Knoch in Melsh. Catal.

Body black, sericeous: antennæ, excepting the three basal joints, annulate, with black and yellowish: trophi yellowish: thorax, posterior angles prominent, acute: elytra punctured; suture, exterior margin, tip, and an abbreviated vitta, black; tip truncato-emarginate: feet pale testaceous: tarsi blackish: abdomen dark reddish-brown, sericeous.

Length two-fifths to nine-twentieths of an inch.

This is an inhabitant of various parts of the United States. It is found in Pennsylvania, and on the Mississippi, though I have not observed it to be common any where.

9. *L. RUFICOLLIS*.—Black; thorax rufous; labrum pale.

Inhabits Kentucky.

L. collaris Melsh. Catal.

Body black, with very short hairs: antennæ, basal joint dull rufous: labrum and mouth pale rufous: thorax rufous, subglobose in the middle, and with a flattened, anterior, and posterior margin: elytra not tapering, confluent punctured, [422] black, entire at tip: beneath sericeous: feet varied with testaceous.

Length less than three-tenths of an inch.

In the distribution of colors it approaches *L. thoracica* Fab., but is a much smaller species. It is also very different from the *collaris* Linn. of Europe, in being smaller and of a more slender form.

RHAGIUM Fabr.

1. *R. TRIVITTATUM*.—Black; elytra with black suture, yellow vitta, black central line, and rufous margin.

Inhabits Mississippi.

Head black: clypeus, mouth and antennæ rufous: thorax uneven, very little narrowed before; an anterior and posterior impressed band, and a dorsal, impressed line: scutel black: elytra hardly emarginated; humerus prominent; suture black, 1824.]

broadier near the base; a broad, yellowish vitta hardly reaching the tip; a black line from near the base separates the vitta from the rufous margin: body, beneath black, with golden pubescence; feet and abdomen rufous.

Length seven-tenths of an inch.

The body is sometimes rufous. In the disposition of colors on its elytra, this species probably bears some resemblance to *R. cursor*. It is certainly generically distinct from *R. lineatum*, which [423] is the only true *Rhagium* of this country that I have seen, though it is highly probable that there is another species.

[Belongs to *Toxotus*.—LEC.]

2. *R. CYANIPENNE*.—Black; antennæ and feet testaceous; elytra blue.

Inhabits the United States.

Body black, tinged with cupreous, punctured; head densely punctured; a longitudinal, obsolete, impressed line: antennæ rather shorter than the body, testaceous: trophi piceous-yellow: thorax impunctured; an obtuse tubercle each side: scutellum black: elytra violaceous-blue; punctures numerous, small, profound; tip truncate; humerus rather prominent: feet testaceous.

Length two-fifths of an inch nearly.

A rare insect. I obtained a specimen several years since near Philadelphia, and recently Mr. Nuttall presented me with a specimen which he captured during his botanical expedition to the Arkansas river.

In form of body, it very much resembles *Leptura collaris* and *L. virginea*, as figured by Olivier, to which genus I would have referred it, but for the small thoracic tubercles.

[The type of *Gaurotes* Lec. Journ. Acad. Nat. Sc. 2d ser. 1, 325. Synonyms are *Pachyta Servillei* Serv.; *P. Ione* Newman; *P. Leonardi* Hald.—LEC.]

CLYTUS Fab. Latr.

1. *C. HAMATUS*.—[Ante 1, 118.] [424]

2. *C. CAPREA*.—[Ante 1, 120.] [425]

3. *C. SUPERNOTATUS*.—Reddish-brown; each elytron with a large white spot behind on a larger black one.

Inhabits Missouri.

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Body cylindrical, reddish brown, punctured, partially covered by very short, prostrate hair: head blackish; antennæ reddish-brown, shorter than the body; thorax in the middle blackish and [426] more prominent: elytra entire; each elytron with an elevated obtuse tubercle near the scutel: a black, longitudinal spot from before the middle, where it is margined with a whitish line, to near the tip; before its posterior termination it is interrupted by a large white spot.

Length one-fourth of an inch.

Found by Mr. Thomas Nuttall on the Missouri.

[The type of the Lamioid genus *Psenocerus* Lec. Journ. Acad. Nat. Sc. Phila. 2d ser. 2, 158, but incorrectly considered by me as identical with *Callidium pini* Ol., which is really a species of *Eudermes* Lec.—LEC.]

STENOCORUS.

1. *S. LONGIPES*.—Black; thorax cylindrical, mutic, rufous; thighs clavate; elytra bidentate.

Inhabits Missouri Territory.

Body elongated, black, punctured, subglabrous: head between the antennæ concave: antennæ longer than the body: thorax rufo-sanguineous, cylindrical, slightly dilated into a very obtuse tubercle each side behind the middle; punctures obsolete: scutel impunctured: elytra with large, rounded, deeply impressed, numerous punctures; apex truncato-sinuate, bidentate: thighs clavate; posterior ones elongated: postpectus and abdomen covered with dense, short, incumbent, cinereous hair.

Length five-sixteenths of an inch.

Found at Fort Kennedy, on Barek Creek, Missouri Territory. It is an elongated insect, resembling a *Necydalis*. The posterior thighs are much elongated, and, like the others, are clavated at tip.

[Belongs to *Rhopalophora*: failing to recognize the genus, I described it as *Tinopus*.—LEC.]

2. *S. MUCRONATUS*.—Brown, with cinereous hair; antennæ three or four spined; thighs mucronate; elytra bidentate.

Inhabits the United States.

Stenocorus marylandicus Melsh. Catal. 1824.]

Body reddish-brown, partially covered with short, prostrate, cinereous hair, inequally distributed: trophi pale rufous: mandibles black at tip: antennæ longer than the body; third, fourth, fifth and sixth joints terminated each by a spine, the first one largest, two-thirds the length of the next joint: thorax with two tubercles before the middle, two longitudinal ones at base, and a longitudinal line, glabrous: scutel white, with dense hair, divided into two lobes: elytra punctured; hair so disposed as to give the surface an irregularly maculated appearance; tip bispinose; intermediate and posterior thighs bimucronate; the inner spine longest.

Length seven-twentieths of an inch.

This species is not the *S. marylandicus* of Fabr., as described and figured by Olivier, which is a much larger and more dilated insect; the thighs not mucronate, and the joints of the antennæ spinous to the tip. It is, perhaps, more closely related to *S. spinicornis* Fab., but that insect is described as having the joints of its antennæ bispinous at tip.

It is a common insect in many sections of the United States and is by no means rare in Pennsylvania; [428] we obtained specimens on the Missouri, Platte, and Arkansa rivers.

[Belongs to *Elaphidion*.—LEC.]

MOLORCHUS Fabr.

M. BIMACULATUS.—Black, hairy; elytra testaceous on the disk.

Inhabits the United States.

Molorchus bimaculatus Knoch in Melsh. Catal.

Antennæ, palpi and feet rufous: thighs clavate: elytra testaceous; basal, exterior, and posterior margins black.

Length nearly one-fourth of an inch.

The feet vary in being sometimes fuscous.

DONACIA.

D. ÆQUALIS.—Brassy, with two dilated, indented, subsutural spots on the elytra, and an indented, humeral line; two elevated lines between the eyes.

Inhabits Missouri.

Body æneous, polished, punctured, glabrous: head with short,

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cinereous pubescence; an obsolete, indented line; two elevated tubercles between the eyes, extending in a depressed ridge to the base of the antennæ, where it is slightly more elevated: eyes black: antennæ clothed with cinereous pubescence; second and third joints equal: palpi and mandibles black: thorax densely punctured; punctures sometimes confluent; a longitudinal, [429] indented line; a lateral, dilated, hardly elevated tubercle before the middle: scutel minutely punctured and rugulose: elytra with regular series of punctures; surface slightly rugulose; two subsutural, dilated, obsolete, indented spots near the middle, and a subhumeral, impressed, dilated line at base: beneath argenteous-pruinose: feet cupreous, pubescent; a robust spine beneath the posterior thighs near the tip.

Length rather less than seven-twentieths of an inch.

Var. a. Body above cupreous, polished.

Found near Engineer Cantonment.

LEMA Fabr.

1. *L. TRIVITTATA*.—Rufous; elytra pale; suture and marginal vitta of the elytra black.

Inhabits the United States.

Crioceris trivittata Knoch in Melsh. Catal.

Body rufous, impunctured: antennæ black; first joint rufous: thorax contracted each side on the middle; two black spots above, placed one on each side rather before the middle; sometimes obsolete: scutel black: elytra pale yellow; suture and exterior submarginal line black; punctures arranged in series: tibia, at tip, and tarsi, black.

Length less than three-tenths of an inch.

Var. a. Thorax entirely rufous, immaculate. [430]

I obtained specimens of this species from the vicinity of the Rocky Mountains.

[This is *L. trilineata* Ol.—LEC.]

2. *L. COLLARIS*.—Black; thorax rufous; elytra green, striate with punctures.

Inhabits Missouri.

Body black: head rugose, with an impressed, longitudinal line; a slight tubercle above each antenna: thorax bright rufous, impunctured; contracted each side behind the middle, and with 1824.]

an impressed, transverse line near the base above : scutel minute : elytra bright bluish-green, with nine series of longitudinal punctures : beneath black, polished, impunctured.

Length more than one-fifth of an inch.

Found on the *Tradescantia virginica*.

ORSODACNA Latr.

O. VITTATA.—Black, punctured ; elytra pale testaceous ; suture and outer margin black ; feet rufous.

Inhabits Missouri.

Body black, punctured : basal joints of the antennæ, labrum and palpi obscure reddish-yellow : thorax with dilated, confluent punctures : elytra with dilated, confluent, dense punctures, pale yellowish-white ; suture and exterior margin black : feet pale rufous : tarsi dusky.

Length nearly one-fourth of an inch.

Found in Missouri.

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HISPA Linn. Latr.

1. H. LATERALIS.—Black ; thorax, each side, and humerus yellowish.

Inhabits Illinois and Missouri.

Body black, punctured : head impunctured, rugose above between the eyes : front with a prominent tubercle beneath the antennæ : antennæ more robust towards the tip : thorax with a dilated, reddish-yellow margin confluent before : pectus yellowish ; each side behind black : postpectus posterior to the intermediate feet, impunctured, polished : feet punctured ; anterior thighs annulate, with yellowish at base ; intermediate and posterior ones with a large yellowish spot near the base : elytra serrate, each with three double and one quadruple series of large, rounded, profoundly impressed punctures, separated by three elevated lines, and a common sutural one ; a humeral, reddish-yellow spot attenuated behind, and terminated over the origin of the posterior feet : abdomen impunctured, polished.

Length three-tenths of an inch.

Obtained on the bank of the Mississippi, above the confluence of the Ohio river, and also near the Rocky Mountains. It is destitute of the frontal dot of *humeralis*, but is probably more

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closely allied to *sanguinicollis*, and may prove to be *scapularis* Oliv., [432] the description of which I have not seen.

[Belongs to *Anoplitis* Kirby, and is *Hispa scapularis* Ol.—LEC.]

2. *H. PALLIDA*.—Yellowish-white; elytra with punctured striæ, elevated lines, and blackish, linear spots towards the tip. Inhabits the United States.

Body pale testaceous, densely punctured: head with a longitudinal, impressed line, and indented point each side near the eyes: thorax quadrilineate, with black: elytra serrate; each elytron with three obtuse elevated lines, and a common one; a blackish spot before the tip of the common line, one or two black spots behind the middle of the second line, and one before the middle; two upon the next line, of which one is upon the middle of it; two upon the next line, and two corresponding ones upon the lateral edge; between each two of the elevated lines are double series of profoundly impressed, large, transverse punctures: feet pale testaceous: beneath black or pale yellowish, varied with black: venter black or pale yellow, with four series of brown spots.

Length about three-twentieths of an inch.

[Appears to be *Hispa rosea* Weber.—LEC.]

3. *H. OBSOLETA*.—Blackish; thorax with punctured striæ, elevated lines, and obsolete, yellowish spots.

Inhabits the United States.

Head dull rufous, black at base, and with a black line impressed in the middle: antennæ black: thorax dull yellowish, with four equidistant [433] black lines: elytra black, serrate, each with three elevated lines, and a common sutural one, separated by double series of large, profoundly impressed, transverse punctures; several small dull yellowish or rufous spots on the elevated lines, (placed similarly to the black elytral spots of the preceding species) and a larger spot at tip; beneath black: feet pale testaceous.

Length three-twentieths of an inch.

Very similar to the preceding species, than which it is more common; as in that insect the spots on each elytron are arranged in two oblique bands, of which the anterior one is much more
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oblique than the posterior one; but as several of these spots are often obsolete or wanting, the bands are not alway to be traced.

[This is *H. inæqualis* Weber; *H. flavipes* Germ. is a synonym.—LEC.]

4. *H. CYANEA*.—Bluish-violaceous; beneath black; vertex rugose.

Inhabits Missouri.

Body above bluish-violaceous: head dusky: vertex with three longitudinal grooves, which attain the base of the antennæ: antennæ black: thorax with confluent, dilated, excavated punctures; elytra with regular series of large, dilated, punctures: interstitial lines slightly elevated; serratures of the margin and tip obsolete; beneath black.

Length less than one-fourth of an inch; male much smaller.

5. *H. COLLARIS*.—Thorax red; elytra blue; beneath black. [434]

Inhabits Arkansa.

Head black: antennæ, five terminal joints clothed with minute, cinereous hairs: thorax bright rufous, indented on the middle of the base; punctures much dilated, profound: elytra blue, with regular series of large, dilated punctures; interstitial lines slightly elevated; edge distinctly serrated; beneath black.

Length less than one-fourth of an inch.

I found but a single specimen near the Rocky Mountains.

[A *Microrhopala* unknown to me.—LEC.]

CASSIDA

C. UNIPUNCTATA.—Yellow; margin whitish; thorax with a black spot.

Inhabits Missouri.

Body oval, yellow: head whitish: antennæ black at tip: labrum black: thorax, anterior and lateral margin white: an abbreviated, black line on the middle: elytra irregularly punctured; margin pale or whitish: beneath black, varied with whitish: feet whitish.

Length two-fifths, breadth about one-fourth of an inch.

The form of this species is more oblong than any other of its American congeners; it is also of a larger size than either of them that I have seen.

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IMATIDIUM Fabr.

1. I. 17-PUNCTATUM.—Yellowish; thorax four-spotted; elytra twelve-spotted.

Inhabits Arkansaw.

Body pale yellowish, punctured: antennæ black at tip: front with an impressed line: mouth dusky: thorax four-spotted in a transverse series: the two intermediate spots most distant; scutell black: elytra each six-spotted: spots subequal, placed obliquely 2, 2, 2, and an obsolete common one near the suture: beneath yellow, or yellow varied with black; tarsi black.

Length two-fifths, breadth one-fourth of an inch.

The position of the black spots is as in *13-punctata*, but their number differs; the general color is different, and *17-punctata* is of a more slender form than its congener. Found near the Rocky Mountains.

[This is *C. cribraria* Fabr., and belongs to *Chelymorphia*.—LEC.]

2. I. CYANEUM.—Suborbicular, blue, with dilated punctures; antennæ pale.

Inhabits Georgia.

Body deep blue, suborbicular, with profound, excavated punctures; head slightly punctured; a longitudinal, impressed line: antennæ, excepting the basal joint, pale yellow: thorax, posterior edge forming nearly a semicircle, lobate at the scutell; lateral edge almost transverse; anterior margin very profoundly emarginate; punctures, each side [436] dilated, on the middle obsolete: scutell purple, truncate at tip; elytra, humeral angle advanced subacute; punctures arranged in series, and each with a minute, central, purplish tubercle; tergum sanguineous: beneath black, impunctured.

Length one-fifth of an inch.

A very beautiful species, common on the sea Islands of Georgia and East Florida.

[Belongs to *Porphyraspis* Boh., and is *Cassida erythroceræ* Germ. The specific names both bear the date of 1824; the one of Germar is adopted by Boheman and will therefore prevail.—LEC.]

1824.]

CLYTHRA Laich, Latr.

C. 4-GUTTATA.—Black: elytra, with a large, red, humeral spot, and an orbicular terminal one.

Inhabits the United States.

Cryptocephalus 4-guttatus Oliv. in Melsh. Catal.

Body deep black, polished, punctured: head and thorax, punctures minute, profound; elytra, punctures obsolete or very slightly impressed; a large red spot on the humerus, and another orbicular one at the tip of each.

Length three-twentieths of an inch.

Very much resembles *Cryptocephalus 4-maculatus*.

[Belongs to *Babia*.—LEC.]

CRYPTOCEPHALUS.

1. C. NIGRICORNIS.—Black; thorax and elytra obscurely margined with rufous.

Inhabits Missouri.

Body black, punctured: labrum and basal joints [437] of the antennæ, beneath rufous: thorax, lateral margin rufous; edge black: elytra with regular series of punctures; exterior margin, tip, bases and subsutural line obscure rufous; edge black; an obsolete, rufous spot each side of the tail.

Length less than three-twentieths of an inch.

One or two of the interstitial lines of the elytra are sometimes very obsoletely rufous, particularly in the larger females. In some of the males the rufous margin is hardly perceptible.

[Belongs to *Pachybrachys*, according to Suffrian, Linn. Ent. 7, 161.—LEC.]

2. C. ABDOMINALIS.—Gray-brown: the punctures black; beneath black; feet and margin of the abdomen pale.

Inhabits Missouri.

Body gray-brown, punctured: head and thorax irregularly clouded with markings composed of blackish, impressed punctures: elytra striate with black punctures: beneath black; feet pale, with a black femoral spot; edge of the venter pale: tail whitish, with small, blackish dots.

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Length less than three-twentieths of an inch.

[Also a *Pachybrachys*.—LEC.]

3. *C. FASCIATUS*.—Yellowish, varied with rufous: elytra with three bands; beneath rufous.

Inhabits Missouri.

Body yellowish, punctured: head rufous; orbits yellowish; punctures crowded, irregular: eyes black, transverse: antennæ dusky at tip: labrum dusky at base: thorax varied with yellowish and rufous; punctures sometimes confluent; posterior angles a little produced backwards and acute: [438] scutel rounded at tip: elytra striate, with large, deeply impressed punctures; punctures at tip irregularly disposed; three dilated, somewhat undulated, rufous fasciæ: beneath rufous: feet somewhat paler.

Length about three-twentieths of an inch.

Found near the Konza river. At first sight it might be taken for a variety of *C. congestus*, of which the spots had become confluent into bands, but the much punctured thorax is a distinguishing character that cannot in this instance be mistaken.

4. *C. PUNCTIPES*.—Black; front two-spotted; thorax with three spots, and margin rufous; elytra varied with whitish spots.

Inhabits Arkansa.

Body black, punctured: labrum each side, base of the antennæ, three or four small obsolete spots between the antennæ, and two larger ones between the eyes, dull rufous: thorax, anterior and lateral margins, two oblique, dilated, abbreviated lines at base, and one at tip dull rufous: elytra with punctured striæ; basal edge, three large marginal spots, of which one is terminal; a smaller one on the middle, near the suture, and two or three smaller ones near the base, yellowish: thighs with a white oblong spot near the anterior tip: tail with two dull rufous dots, and a smaller one each side on the terminal ventral segment.

Length less than one-fifth of an inch.

Corresponds in some respects with Olivier's [439] description of his *C. brunnipes*, but besides some other differences, the antennæ are shorter than the body. It may possibly, however, be the same.

5. *C. FEMORATUS*.—Black; labrum white; thorax with three rufous spots; elytra with a whitish, basal edge.

Inhabits Arkansa.

Body black, punctured: antennæ pale rufous at base: eyes approaching above: labrum white: thorax with a dilated, longitudinal, red spot on the lateral margin, and a line in the middle much dilated on the basal margin and edge; elytra, punctures irregularly disposed, and approximate at base, becoming in regular series towards the tip; basal edge white: anterior thighs more robust than the others.

Size of the preceding.

The form of this species is very like that of *punctipes*. Varies in having the thorax entirely red, slightly shaded with black; with a few small whitish points on the posterior part of the elytra, and obsolete white spots on the anterior femora.

[Belongs to *Pachybrachys*, and is the same with *C. luridus* Fabr.—LEC.]

6. *C. RECURVUS*.—Black; margins of the thorax and elytra yellowish.

Inhabits the United States.

Body black: head impunctured: labrum dark piceous: thorax yellowish-rufous, impunctured; a large, dorsal, black spot which attains the posterior but not the anterior edge; a small round dot each side sometimes obsolete or wanting: elytra with [440] punctured striæ; exterior and terminal margins yellow; edge black: beneath all black.

Length about one-ninth of an inch.

A pretty little species, and bears some resemblance to *Chrysomela marginella* of Donovan, and as in that species, the yellow of the terminal margin is recurved for a short distance upon the sutural margin. It is probably allied to the *C. lituratus* Fab.

[This is a variety of *C. lituratus* Fab.—LEC.]

7. *C. CONFLUENTUS*.—[Ante 1, 64.]

8. *C. BIVITTATUS*.—[Ante 1, 65.] [441]

9. *C. 4-MACULATUS*.—Black; elytra with a large red spot on the humeral base, and an orbicular terminal one.

Inhabits the United States.

Cryptcephalus 4-maculatus Knoch in Melsh. Catal.

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Body deep black, polished, obsoletely punctured : labrum at tip, and antennæ at base, pale : elytra with striæ of large profound punctures; a large, red, humeral spot extending along the base to the scutel, and along the exterior margin nearly to the middle : a large, orbicular, red spot near the tip of each elytron. [442]

Var. a. Humeral spot not extending along the base, but oblong-oval.

Var. b. Humeral and terminal spots elongated so as to unite on the margin.

Length one-fifth of an inch.

Very similar in color and appearance to *Clythra 4-guttata*.

COLASPIS Fabr. Latr.

1. C. PRETEXTA.—Metallic; thorax and elytra edged with green; antennæ and feet pale.

Inhabits the United States.

Eumolpus metallicus Knoch in Melsh. Catal.

Body dull reddish or dusky, tinged with cupreous; polished, punctured; head, punctures remote; a profoundly impressed, frontal line: antennæ and palpi pale, whitish: labrum and tip of the clypeus somewhat piceous: thorax, punctures profound, subequally distributed; lateral, reflected edge green: scutel, punctures obsolete: elytra, punctures, rather large, scattered irregularly at base; near the tip smaller, and approaching regular series; beneath piceous: feet pale.

Length more than one-fifth of an inch.

It is not uncommon on the myrtle. The name *metallicus* is pre-occupied.

[This is *C. picipes* Ol.; it is placed in Dejean's Catalogue in *Chalcophana*, a genus of which I have not seen any description.—LEC.]

2. C. OVATA.—Blackish-coppery, convex; antennæ and feet pale rufous.

Inhabits the United States.

[443]

Eumolpus ovatus Knoch in Melsh. Catal.

Body blackish, with a cupreous tinge, punctured: head densely punctured: antennæ and palpi entirely pale rufous or yellowish: labrum piceous: thorax with dense, somewhat equally distributed punctures: elytra, punctures longer, and irregularly disposed at 1824.]

base; near the tip smaller, and approaching regular series; beneath blackish: feet pale rufous.

Length more than one-tenth of an inch.

A much smaller and much more convex species than the preceding one. In the form of the terminal joint of the maxillary palpi, this species closely approaches the genus *Eumolpus*.

3. *C. CONVEXA*.—Blackish; labrum and base of the antennæ rufous; an indented line on the vertex.

Inhabits Missouri.

Body convex, blackish, tinged with greenish or dull cupreous, punctured: head minutely punctured; an indented, abbreviated line near the vertex, which does not extend below a line drawn between the middle of the eyes; space between the antennæ plain: antennæ black; six basal joints pale rufous: labrum piceous: palpi pale at base; tip black: thorax densely and minutely punctured: elytra with large and more distant punctures, some of which become almost regular series near the tip: beneath black, somewhat tinged with brassy: feet piceous-black: thighs subelavate. [444]

Length less one-fifth of an inch.

4. *C. STRIATA*.—Black; labrum, palpi, and base of the antennæ, dull rufous; elytra striate, with punctures.

Inhabits Missouri.

Body black, punctured, immaculate: head with obsolete, small punctures; an obsolete, indented abbreviated line near the vertex, hardly attaining a line drawn between the middle of the eyes: antennæ, five or six basal joints dusky rufous: labrum piceous: palpi pale at base: thorax, punctures minute, not deeply impressed: elytra with regular series of large, profound punctures: thighs dilated in the middle.

Length three-twentieths of an inch.

[A species belonging to *Paria* Lec., Proc. Acad. Nat. Sc. Phil. 1858, 86; it is *C. aterrima* Oliv.—LEC.]

5. *C. PUNCTICOLLIS*.—Greenish or cupreous; thoracic punctures oval; labrum and antennæ at base rufous.

Inhabits Missouri.

Head and thorax with crowded, longitudinally oval, profound punctures: antennæ black-brown; six basal joints pale; labrum

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and mandibles piceous: palpi pale at base: elytra, punctures scattered, near the tip placed in obsolete series: feet dark piceous: thighs black.

Length three-twentieths of an inch.

Very similar to *C. convexa*, but is smaller, and the thoracic punctures are larger. The feet are sometimes entirely rufous. [445]

6. *C. 10-NOTATA*.—Rufous-brown, hairy; elytra each with about six obsolete, black spots.

Inhabits the United States.

Body dark reddish-brown, punctured, clothed with short cinereous hair: labrum and base of the antennæ yellowish: thorax emarginate: elytra with dilated, confluent punctures: humerus prominent; each with a black spot on the middle of the base, one on the humerus, a linear, dorsal one near the suture, a fourth near the margin, sometimes double, and a double one before the tip: thighs with a projecting angle beneath.

Length less than three-twentieths of an inch.

A very distinct species; it may perhaps, with almost equal propriety, be referred to the genus *Eumolpus*.

[Belongs to *Pachnephorus*.—LEC.]

7. *C. 6-NOTATA*.—Pale; each elytron with three black spots.

Inhabits the United States.

Body pale punctured: front with an obsolete black spot: elytra with regular series of punctures, which disappear towards the tip; a black, linear spot near the base, and two others on the middle, which are parallel and approximate, and of which the interior one is placed rather further backward: beneath black: pectus, feet, and posterior portion of the venter, pale: thighs with a slight angle beneath.

Length about three-twentieths of an inch. [446]

I have found this specimen in considerable numbers on the common Juniper in July.

[Belongs to *Paria*.—LEC.]

8. *C. 4-NOTATA*.—Black; head rufous; elytra testaceous, with two black spots.

Inhabits the United States.

Body black, punctured: head obscure rufous: antennæ paler at base: thorax black, immaculate; punctures sparse, not pro-
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found: scutel pale reddish-brown: elytra pale testaceous, with striæ of punctures, which become obsolete before the tip; a black, oblique spot near the base of each, and a larger obliquely, quadrate one on the middle; exterior edge black: feet pale: thighs with a minute angle beneath.

Length about three-twentieths of an inch.

It has considerable resemblance to the preceding.

[Also a *Paria*.—LEC.]

9. *C. PALLIDA*.—Pale rufous: elytra pale testaceous, immaculate.

Inhabits Missouri.

Body very pale rufous; head obsoletely punctured; an indented, abbreviated line or spot on the vertex: thorax, punctures small, sometimes obsolete: elytra pale testaceous, with striæ of punctures which become obsolete before the tip: beneath pale.

Length three-twentieths of an inch.

Very similar to *C. 6-notata*, but is always destitute of spots on the elytra.

[This and the next belong to *Metachroma*, as limited by me, Proc. Acad. Nat. Sc. Phila. 1858, 85. I consider them both as varieties of *M. quercatum*.—LEC.] [447]

10. *C. DUBIOSA*.—Pale rufous; elytra pale testaceous, with a black suture dilated at base.

Inhabits Arkansa.

This species seems to differ from the preceding, only by having a black suture dilated at base, a black lateral edge on the anterior half, sometimes obsolete, and a black, basal ventral segment; the thorax is sometimes obsoletely dotted with black, and in one specimen is a small black spot anterior to the middle of each elytra; the *6-notata*, *4-notata*, *pallida*, and *dubiosa* may possibly prove to be the same species, exhibiting remarkably distinct variations in the distributions of its colors. Found near the Rocky Mountains. I think it possible that *dubiosa* may prove to be a variety of *Cryptocephalus canellus* Fabr.

11. *C. FAVOSA*.—Greenish, with dilated, profound punctures: antennæ black, testaceous at base.

Inhabits Arkansa.

Body greenish, with a coppery tinge, with numerous, approxi-

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mate, irregularly disposed, confluent, profound, dilated punctures : eyes brown : antennæ black, dark testaceous at base : labrum piceous, impunctured : edge of the thorax and elytra more exclusively bluish or violaceous ; punctures of the elytra larger than the thoracic ones ; humeral prominence impunctured : pectus with smaller punctures : postpectus with a few minute punctures furnishing minute hairs, and with [448] the venter, which is impunctured, bluish-violaceous : feet dark violaceous.

Length one-fourth of an inch.

12. *C. DENTICOLLIS*.—Lateral thoracic edge three-toothed ; elytra serrate.

Inhabits Missouri.

Body black, slightly bronzed, covered with dense, robust, cinereous hairs : antennæ dull rufous at base : thorax with three equal, equidistant teeth on the lateral edge : elytra, lateral edge minutely dentated ; tip simple : anterior tibia and posterior thighs one-toothed.

Length nearly one-fifth of an inch.

[Belongs to *Myochrous* Chevr., of which I have seen no description.—LEC.]

13. *C. INTERRUPTA*.—Rufous ; thorax with two spots ; elytra, suture, exterior edge, and abbreviated vitta, black.

Inhabits Arkansa.

Body rufous, punctured : antennæ black ; five basal joints pale rufous : thorax with a large black spot on each side : scutellum piceous : elytra rather paler, with regular punctured striæ, which are nearly obsolete at tip ; a black sutural line, exterior edge, and oblique vitta, which originates upon the humerus, is interrupted at the middle, and terminates before the tip : beneath blackish : feet pale rufous.

Length one-fourth of an inch.

Found near the Rocky Mountains.

[Belongs to *Metachroma*.—LEC.]

[449]

EUMOLPUS Fabr. Latr.

E. CRYPTICUS.—Entirely covered with short, cinereous hair ; elytra very acute at tip.

Inhabits Missouri.

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Body densely covered with short, robust, cinereous hair, beneath which the surface is dull reddish, inclining to cupreous; punctured: scutel dusky, sparsely hairy: elytra with very small, profound punctures, which are more distant from each other than the length of their diameters; tip attenuated equally from the suture and exterior edge; a little produced, and terminating acutely.

Length less than two-fifths of an inch.

Very similar to a smaller species which Mr. F. N. Melsheimer, in his catalogue, names *pilosus*; but the elytral punctures of that insect are much more crowded.

CHRYSOMELA of Authors.

1. *C. HYBRIDA*.—Ferruginous; elytra pale yellow; suture and three lines on each ferruginous.

Inhabits Missouri.

Body oval, punctured, ferruginous: thorax irregularly punctured, and with large, confluent punctures each side: scutel impunctured, rounded at tip: elytra, with the suture and three lines, rufous; the intermediate line undulated, and united [450] to the exterior one at base, and abbreviated at tip: wings pink red.

Length more than three-tenths of an inch.

Very much resembles *C. exclamationis* Fab., but, besides other differences, the exterior elytral line is not interrupted; in the color of the thorax it approaches Fabricius' description of that species. Brought from the Missouri by Mr. T. Nuttall.

2. *C. MULTIPUNCTATA*.—Ferruginous; thorax yellow, with a ferruginous curve; elytra yellow, with numerous green spots.

Inhabits Missouri.

Head and all beneath ferruginous; thorax yellow, with a ferruginous, irregular, arquated line and basal edge, including an obsolete dot: elytral with a sutural line, and numerous, irregular, green dots and abbreviated lines, and immaculate, exterior margin: wings rosaceous.

Var. a. Suture with a common, ferruginous fillet.

Size of *C. philadelphica*, which it closely resembles; but, although it varies much, it may always be distinguished from that

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species by the colors of the head and thorax, which, in the *philadelphica*, are always green, immaculate. Numerous specimens were brought from Missouri by Mr. T. Nuttall.

3. *C. DISSIMILIS*.—Dark purple or greenish; antennæ black; beneath blued-black. [451]

Inhabits Missouri.

Body dark purple, violaceous or greenish, punctured; punctures profound, subequally distributed: head impressed between the antennæ: antennæ and palpi black: thorax regularly convex; lateral edges regularly arquated; scutel impunctured: elytra destitute of striæ: beneath blued-black: venter, punctures sparse.

Length more than one-fifth of an inch.

Varies in its colors. It is sometimes of a very dark purple color, and sometimes of a bright green, more or less tinged, however, with violaceous, particularly about the suture.

4. *C. FORMOSA*.—Green-gold, brilliant: antennæ black; suture of the elytra purple; beneath violaceous.

Inhabits Missouri.

Body golden-green, brilliant, punctured: antennæ and palpi black: labrum purplish: thorax somewhat inequal; edges bluish: scutel purple, impunctured: elytra slightly and irregularly rugose, punctured; suture purple; exterior edge blue: beneath violaceous: tibia black.

Length more than three-twentieths of an inch.

A brilliant little insect.

5. *C. BASILARIS*.—Green; antennæ black; basal joint rufous; thorax with a thickened margin.

Inhabits Arkansa.

Body green, very slightly glossed with violaceous, punctured: vertex with an impressed line: [452] antennæ black; basal joint rufous: thorax indistinctly punctured; punctures distant; lateral margin much thickened: elytra with irregularly scattered punctures: venter dusky, with a greenish gloss.

Length less than one-fourth of an inch.

I obtained this species near the Rocky Mountains.

[Unknown to me.—LEC.]

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6. *C. AURIPENNIS*.—Violaceous; margin of the thorax thickened; elytra golden.

Inhabits Arkansa.

Body violaceous: antennæ black, dark violaceous at base: thorax with slight, distant punctures; lateral margin much thickened: scutel violaceous, rounded: elytra golden-cupreous, brilliant; exterior edge green, punctured; punctures placed in somewhat regular series.

Length more than one-fourth of an inch.

A very beautiful insect, of which I obtained but a single specimen near the Rocky Mountains.

7. *C. FLAVOMARGINATA*.—Black; thoracic margin thickened; elytra margined with yellowish.

Inhabits Missouri.

Body black, punctured: thorax, punctures each side larger; lateral margin thickened: elytra with regular series of punctures, and smaller irregularly disposed punctures: exterior margin and tip yellowish; beneath black.

Length more than one-fourth of an inch.

Collected in Missouri by Mr. T. Nuttall.

[453]

HELODES Payk.

H. OBSOLETA.—Black; thorax and elytra margined with yellowish.

Inhabits Missouri.

Body blackish, punctured; head and thorax tinged with green, margin of the latter yellowish, thickened, with a black, insulated point: elytra tinged with violaceous, irregularly punctured; margin, tip, and obsolete lines before and behind the middle, yellowish: beneath black, immaculate.

Length three-tenths of an inch.

Var. a. Obsolete lines none.

[Belongs to *Chrysomela*, as at present received.—LEC.]

DORYPHORA Illig.

1. *D. 10-LINEATA*.—Yellow; thorax litterate, with black; elytra each with five black lines.

Inhabits Missouri and Arkansa.

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Body yellow : head with a triangular, black, frontal spot : thorax, two abbreviated, black, approximate lines, divergent before ; about six black dots on each side : elytra, suture, and five lines on each, black ; the interior line is confluent with the suture behind ; exterior line marginal ; three intermediate ones joined or approximated at tip : beneath, incisures and three or four series of ventral spots black.

Length two-fifths of an inch.

[454]

Var. a. Elytra white : the two outer intermediate lines are united at base and tip.

This species seems to be not uncommon on the Upper Missouri, where it was obtained by Mr. Nuttall and by myself. The variety I found on the Arkansa.

2. D. 3-MACULATA.—Bluish-green ; elytra yellow, with a common band, and each with a triangular, black spot near the tip ; feet purplish.

Inhabits the United States.

Chrysomela maculata Melsh. Catal.

“ *trimaculata* ? Fab. Syst. Eleut.

Bluish-green, punctured : antennæ and palpi black : elytra punctured in double lines, which become confused near the tip ; a dilated, black band extending in breadth from near the base to the middle, not attaining the lateral edge, and often interrupted in the middle of each elytron ; a large, triangular spot near the tip of each elytron : beneath black-blue ; feet purplish.

Length two-fifth of an inch.

A common insect. Mr. Nuttall captured a specimen with the band interrupted into small spots, and the triangular spot near the tip entirely wanting.

This species is no doubt closely related to *Chrysomela trimaculata* of Fabr., if not the same, which I believe it to be, although that insect is said to be a native of South America, and the tarsi are not rufous as those of that insect are described [455] to be. The terminal joint of the maxillary palpi is very short and transverse ; in this respect, corresponding in character with the palpi of the genus *Doryphora*, as defined by Mr. Latreille, and, although, as in the preceding species, the prosternum is not remarkably advanced, I prefer arranging it here.

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GALLERUCA Geoff. Leach.

1. *G. CORYLI*.—Pale yellowish, testaceous; elytra bifasciate with blue.

Inhabits the United States. Illinois.

Galleruca coryli J. F. Melsheimer's letter to me.

Body pale yellowish-testaceous: head with an impressed line between the antennæ: antennæ blackish: labrum hirsute: mandibles black at tip: thorax transversely concave in the middle; anterior angles subacute; posterior ones rounded: scutel rounded at tip: elytra somewhat dilated behind the middle, with numerous, minute punctures, a much dilated blue band at base, and a still larger one at tip: wings black.

Var. a. Pale yellowish-testaceous, immaculate.

Length more than half an inch.

A very large species; it is considerably dilated behind, and has probably considerable affinity with the genus *Adorium*, but the terminal joint of the palpi is not truncated. It occurs in Maryland [456] and Virginia, on the banks of the Missouri, and J. F. Melsheimer informs me that it is so numerous in some parts of Virginia, that it completely defoliates, in a short time, the Hazel, (*Corylus americanus*) upon which it feeds.

[A species of *Cælomera*.—LEC.]

2. *G. TUBERCULATA*.—Dull reddish-brown; a slight tubercle at the anterior and posterior angles.

Inhabits Missouri.

Body dull reddish-brown, immaculate, with prostrate hairs: antennæ black, rufous at three basal incisures: thorax with a much dilated, slightly indented spot each side, and an inconspicuous, central line; edge slightly emarginated each side of the posterior angles, which, with the anterior angles, are somewhat elevated, and resemble slight tubercles: elytra irregularly punctured: knees, tibia, and tarsi black.

Length one-fourth of an inch.

This species is remarkable by its dull, and, with the exception of the antennæ and feet, uniform reddish-brown color; the two emarginations near the posterior thoracic angles are so obtuse as to be little more than truncations; the lateral one of which pro-

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duces an angle at its anterior termination on the middle of the edge.

[Belongs to *Adimonia*,—LEC.]

3. *G. DORSATA*.—Pale yellowish; elytra blue, with a yellow outer margin and tip.

Inhabits Arkansa.

Body pale yellowish: head black on the vertex: antennæ black-brown: thorax immaculate; punctures [457] obsolete: scutel blackish-bronze: elytra irregularly punctured, greenish-blue; exterior margin and tip yellow; an indented, abbreviated line on the basal middle: feet with a blackish line above.

Length one-fourth of an inch.

Found on the banks of the Arkansa above the Verdigris.

[Unknown to me.—LEC.]

4. *G. CIRCUMDATA*.—Yellowish; antennæ black; elytra purplish-black, with a yellow border and suture.

Inhabits Arkansa and Missouri.

Body yellowish: head impunctured: antennæ black: thorax impunctured, transversely-quadrate; edges nearly rectilinear; scutel yellow: elytra with minute, distant punctures, blackish-purple; suture, exterior margin, and tip, yellow: beneath pale yellow.

Length less than one-fourth of an inch.

The basal joint of the antennæ is sometimes yellowish.

[Perhaps a *Phyllobrotica* described by Fabricius as *G. discoidea*; but that species has usually the first three joints of the antennæ yellow, and the thorax is bifoveate.—LEC.]

5. *G. TRICINCTA*.—Yellowish; head, three elytral bands, and terminal dot, black.

Inhabits Arkansa.

Head black: thorax yellowish, subquadrate: scutel black: elytra yellowish-white, with three equidistant, dilated, black bands, the first of which is uninterrupted and basal, not attaining the lateral edge, and at the suture extending in a common line near to the second band; second band nearly central, and with the third, not attaining the exterior edge, and interrupted at the 1824.]

suture; a small black dot on each elytron at tip; striæ none; punctures numerous, obsolete; postpectus black: knees, tibia, and tarsi black.

Length one-fourth of an inch.

Observed near the mountains on the bank of the Arkansas river.

[Belongs to *Diabrotica*.—LEC.]

6. *G. EXTERNA*.—Blackish-brown, confluent punctured; margin of the elytra yellowish.

Inhabits Arkansas.

Body blackish-brown, with dense, dilated, confluent punctures: head with a longitudinal, indented line: thorax somewhat unequal, with a longitudinal, indented line, and lateral, irregular ones: scutellum rounded at tip: elytra confluent punctured, with three or four elevated, unpunctured lines; lateral margin and tip slightly dilated, yellow: beneath black.

Length more than seven-twentieths of an inch.

It is much more robust than *G. baccharidis*.

[This is a species of *Adimonia*.—LEC.]

7. *G. PUNCTICOLLIS*.—Dull yellowish-brown; thorax confluent punctured, unequal; antennæ and two fillets on each elytron black.

Inhabits Mississippi and Arkansas.

Body with minute hairs: head, above confluent punctured: clypeus and labrum glabrous: antennæ black: thorax rough, with excavated, confluent punctures; immaculate, unequal: elytra with minute punctures; fillets obsolete, often wanting [459] or hardly visible: thighs with a black spot: tibia and tarsi black.

Length three-twentieths of an inch.

Captured by Mr. T. Nuttall on the Mississippi. I also found specimens on the Arkansas near the Mountains. It considerably resembles *G. baccharidis* Fab., but, besides its different markings, its thorax is very much punctured.

[Appears to be allied to *G. notata* and *G. notulata* Fabr.; I have not yet fully identified it.—LEC.]

8. *G. ATTENUATA*.—Yellowish-brown; thorax with three black

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spots; elytra greenish-blue, polished [punctured?]; margin and abbreviated fillet yellowish.

Inhabits Mississippi.

Body yellowish-brown: head with an impressed line on the front: antennæ and vertex black: thorax with a dorsal spot and lateral one each side, black: elytra greenish-blue, with very minute, crowded, and confluent punctures; fillet attenuated, arising from the middle of the base, and terminating beyond the middle of the elytron, and with the exterior margin and tip yellowish-brown.

Length three-tenths of an inch.

The fillet varies in length, and its breadth sometimes continues undiminished to the tip. Captured by Mr. T. Nuttall.

[I have a species which agrees with this except that the elytra are not polished, nor do I think that character will be found in any species having three thoracic spots.—LEC.]

9. *G. DECORATA*.—Yellowish; antennæ, vertex, and two spots on each elytron black.

Inhabits Missouri.

Body yellowish, immaculate, glabrous: vertex and antennæ, excepting the three basal joints, black: edges linear; the posterior one slightly [460] sinuate: scutellum black at base: elytra obsoletely punctured, rounded at tip; each with an oval, black spot at base, and a larger, oblong one extending from the middle to near the tip: pectus and postpectus black.

Length less than three-tenths of an inch.

The second and third joints of the antennæ are subequal, and taken together are hardly longer than the fourth, as in the genus *Adimonia* of Schrank.

[A species of *Phyllobrotica*, previously described by Olivier as *G. 4-maculata*, a name already employed; subsequently by Kirby as *G. Olivieri*.—LEC.]

10. *G. LONGICORNIS*.—Green, oblong; thorax with two impressed spots; elytra with a black fillet and suture.

Inhabits Arkansas.

Body pale greenish: eyes blackish: antennæ as long as the body; second and third joints conjointed, shorter than the fourth: thorax subquadrate; two dilated, oval, impressed spots placed 1824.]

rather behind the middle : elytra irregularly punctured ; three or four obsolete, elevated lines, of which the exterior one is largest, and colored by a brown fillet which does not attain the tip : a brown common sutural line.

Var. a. Destitute of the fillet and sutural line.

Length less than one-fifth of an inch.

I obtained specimens near the Rocky Mountains. The length of the antennæ in some specimens would authorize the placing of it in the genus *Luperus*, whilst the abbreviation of the third and fourth joints resembles those of the genus *Adimonia* [461] of Schrank. This insect varies in being more robust, with the antennæ shorter than the body, and the elytra, at first view, are entirely olive-green ; but on inspection, vestiges of the fillet and sutural line sometimes are visible near the base. It is very similar to *Criaceris vittata* of Fab.

[Belongs to *Phyllobrotica*.—LEC.]

11. G. ATRIPENNIS.—Black ; thorax rufous, with two impressed spots ; venter pale yellowish-rufous.

Inhabits Missouri.

Black, impunctured : head, an indented, frontal spot, and a carinate line between the antennæ : thorax pale rufous ; two dilated, indented spots : elytra irregularly and confluent punctured ; an elevated line from the humerus, parallel with the edge : pectus and venter pale rufous.

Length nearly one-fifth of an inch.

The second and third joints of the antennæ are abbreviated and equal, as in the preceding species.

[A species of *Phyllobrotica*, unknown to me, but closely allied to *G. (Adimonia) cristata* Harris, Trans. Hartford Nat. Hist. Soc., 90, which differs chiefly by the thorax having a wide black vitta, and by the body being black.—LEC.]

12. G. ATRIVENTRIS.—Pale rufous ; antennæ, elytra, and abdomen, black.

Inhabits Missouri.

Body pale rufous : eyes black : antennæ ten-jointed, black : thorax with a dilated, black margin ; interrupted before the scutellum : scutellum pale rufous : elytra black, glabrous, immaculate : wings black : feet, line above the femora, tibia and tarsi black : abdomen deep black.

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Var. a. Thorax destitute of the black margin.

Length more than one-fifth of an inch.

On the *Amorpha fruticosa*, the leaves of which [462] it feeds upon. The antennæ are as long as the body, as in the genus *Luperus*, and have but ten distinct articulations.

[The ten-jointed antennæ are seen only in the male; in the female those organs have eleven joints. Otherwise this species belongs to *Phyllobrotica*.—LEC.]

LANGURIA Latr.

1. L. PUNCTICOLLIS. [Ante, 1, 86.]

2. L. 3-FASCIATA. [Ante, 1, 86.]

[Continuation from Vol. 4, 1824, pp. 88—89.]

ALTICA Geoff. Latr.

1. A. GIBBITARSA.—Rufous, antennæ black; elytra green; thorax spotted.

Inhabits Missouri.

Body rufous, glabrous, ovate: head with an impressed frontal line: antennæ blackish: thorax three-spotted; dorsal spot double; lateral ones smaller and rounded: scutel-purplish-bronze: elytra green, polished; punctures obsolete, irregular: beneath yellowish-rufous: thighs rufous: tibia and tarsi blackish; terminal joint of the posterior tarsi very gibbous, almost spherical near the claws.

Length less than one-fourth of an inch.

[Belongs to *Oedionychis*.—LEC.]

2. A. VIANS.—Thorax yellowish, with a transverse black spot; head and elytra black.

Inhabits the United States.

Altica vians Knoch in Melsh. Catal.

Head black: thorax yellowish; a transverse, black spot, not undulated, occupying nearly all the disk: elytra greenish-black, with minute, equidistant punctures: beneath black: pectus, on each [84] side, excepting a small black spot, yellowish: venter

margined with rufous: terminal joint of the posterior tarsi gibbous near the claws.

Length nearly one-fourth of an inch.

[Belongs to *Oedionychis*, and previously described by Illiger under the same name.—LEC.]

3. *A. SCRIPTICOLLIS*.—Black; thorax yellowish, with a transverse, undulated spot; venter yellow.

Inhabits Missouri.

Body oval, black, glabrous, minutely punctured: head with a transverse, rufous, frontal spot, and another very small one at the base of each antenna: thorax yellow; a transverse, undulated, spot occupying more than two-thirds of the transverse diameter: scutellum impunctured, rounded at tip: elytra black, immaculate; pectus yellowish: venter pale yellowish; terminal joint of the posterior tarsi gibbous near the claws.

Length nearly one-fourth of an inch.

Very like the preceding, but may be distinguished by the frontal spot, and by the undulated, litterate form of the thoracic spot.

[Belongs to *Oedionychis*.—LEC.]

4. *A. TRIANGULARIS*.—Black; thorax yellowish, with three black points placed triangularly.

Inhabits Missouri.

Body oval, black, glabrous: thorax yellowish, with three black points placed triangularly, the two anterior ones orbicular, the posterior one linear, very short: elytra violaceous-black, and as well as the thorax, minutely punctured: pectus, excepting the origin of the feet, yellow; terminal joint of the tarsi simple. [85]

Length about one-fourth of an inch.

Remarkable by the triangular position of the black thoracic points.

5. *A. BIMARGINATA*.—Blue; thorax with an impressed transverse line; elytra with a much elevated line near the margin.

Inhabits Missouri.

Body oblong-oval, blue, minutely punctured: antennæ black: thorax with an impressed, transverse, rectilinear line behind the middle, attaining the lateral margins, and another impressed line before, which is interrupted in the middle and abbreviated

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each side : elytra with an elevated, submarginal line each side, originating on the humerus, and nearly parallel with the exterior edge.

The posterior thighs are much less dilated than those of *collaris* Fabr.

6. A. 5-VITTATA.—Yellowish; thorax four or five-spotted : elytra five-lined.

Inhabits Missouri.

Body oblong-oval, yellowish, glabrous : antennæ black ; three basal joints rufous beneath : thorax with an abbreviated, black line on the middle of the posterior submargin, and a semi-circular series of four equal, equidistant, suborbicular black spots : posterior edge concave at the scutel : scutel black : elytra with a common sutural fillet ; each elytron with a fillet originating at the humerus and terminating near the tip, and another marginal, less [86] dilated fillet, confluent with the sutural vitta at tip ; region of the origin of the posterior feet black : thighs rufous : tarsi, and a line on the superior edge of the two anterior pairs of thighs, together with a line on the inferior edge of the tibia, black.

Length more than three-tenths of an inch.

The arrangement of the lines of the elytra are similar to those of *A. caroliniana* Fabr. The head is sometimes black at base, and the two intermediate thoracic dots are confluent.

Found in considerable numbers on the common elder (*Sambucus*) and some other plants. On the evening of the 16th of June, I observed great numbers of these flying in a south-east direction from near St. Louis, obliquely across the Mississippi towards an island, the wind at the same time blowing moderately from the eastward ; the subsequent evening, about the same hour, they returned by the same route reversed, the wind directly opposing them ; both of these days were very warm. During our progress up the Missouri river, I observed, several times, similar migrations of this species.

7. A. NANA.—Cupreous or brassy, polished ; beneath blackish ; antennæ and feet rufous ; elytra striate.

Inhabits the United States.

Body green, cupreous or golden, polished, punctured : head impunctured : antennæ rufous ; second joint nearly as long as 1824.]

the third : eyes brown : thorax [87] with numerous irregular, large punctures ; a transverse, impressed, conspicuous, rectilinear line behind the middle, near the lateral margin abruptly reflected backwards, and terminating at the basal edge ; edge blue : scutel violaceous : elytra with impressed striæ, in which are large, profound, quadrate punctures : edge blue : beneath black : feet rufous.

Length about one-tenth of an inch.

Seems to be closely allied to *A. helxines*, but the posterior thighs are never black, as those of that insect are described to be.

8. *A. PICTA*.—Sanguineous ; elytra blue ; postpectus and venter black.

Inhabits the United States.

A. sanguinicollis ? Melsh. Catal.

Body ovate : head sanguineous : eyes brown : antennæ fuscous, pale at base : thorax sanguineous ; posterior angles very obtusely rounded : scutel dark violaceous, rounded at tip : elytra blue, polished, with minute, distant punctures : postpectus and venter deep black : feet pale rufous : posterior thighs piceous each side and above.

Length one-tenth of an inch.

A beautiful little species.

9. *A. SENILIS*.—Pale yellow ; elytra green ; suture and exterior edge yellowish.

Inhabits Missouri.

Body pale yellow, punctured : eyes fuscous : antennæ a little dusky at tip : thorax, punctures indistinct ; [88] an indented, transverse line near the tip : elytra green ; a common sutural fillet, exterior and terminal edges, and epipleura, yellowish ; punctures irregularly disposed : posterior thighs but little dilated.

Length less than three-twentieths of an inch.

10. *A. CENTRALIS*.—Black ; thorax with a yellow lateral spot ; elytra with a large common rufous spot.

Inhabits Missouri Territory.

Body oval-orbicular, deep black, polished, with short dense hairs : antennæ and palpi pale yellowish : thorax, lateral margins yellow : elytra with a large, oblong, common, rufous spot on the middle : thighs at tip, tibia, and tarsi, pale rufous.

Length rather more than one-tenth of an inch.

11. *A. UNIGUTTATA*.—Black; thorax rufous, with a black spot; elytra black; two vittæ and margin yellow.

Inhabits the United States.

Body black, impunctured: front rufous: thorax rufous; a large, black, central spot, sometimes connected with a smaller one each side, yellowish or pale: elytra, with obsolete punctures, black; two equal, yellowish vittæ joining at the tip, of which one is subsutural, and the other originating on the humerus; exterior edge yellowish: pectus yellow: venter, margin rufous: feet rufous: tarsi black.

Length more than one-fourth of an inch.

Var. a. Feet black; front black.

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The variety is from near the Rocky Mountains. This species is related to *A. 5-vittata*, to *caroliniana* Fabr., and also to *horticola*, and probably to *glabrata* Fabr.

TRIPLAX Latr. (Regne Animal.)

1. *T. THORACICA*.—Pale rufous; elytra black.

Inhabits the United States.

Ips bicolor Melsh. Catal.

Body pale rufous, punctured; eyes and antennæ, excepting the basal joints, black: elytra with regular series of deeply impressed punctures; interstitial lines with a somewhat regular, undulated series of smaller punctures.

Length one-fifth of an inch.

I change the name given by Mr. Melsheimer, as it is pre-occupied in this genus.

[Subsequently described as *T. melanoptera* Lac.—LEC.]

2. *T. SANGUINIPENNIS*.—Black; elytra and abdomen rufous.

Inhabits the United States.

Tritoma bicolor Melsh. Catal.

Body black, minutely and rather distantly punctured: antennæ, intermediate joints pale rufous: palpi whitish: elytra pale rufous, with punctured striæ: abdomen pale rufous.

Length less than one-fifth of an inch.

The word *bicolor* is preoccupied in this genus.

3. *T. BIGUTTATA*.—Black, with a spot at the base of each elytron; beneath yellowish.

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Inhabits the United States.

Tritoma biguttatum Knoch in Melsh. Catal.

Body punctured, black, yellowish beneath : head dull piceous, darker on the disk : elytra with punctured, slightly impressed striæ, each with a large, basal, yellowish-rufous spot extending from the scutel to the humeral angle, and hardly attaining the middle of the elytron.

Length less than three-twentieths of an inch.

A common species.

[Afterwards described as *Tritoma basalis* Lac.—LEC.]

PHALACRUS Payk. Latr.

1. *P. PALLIPES*.—Piceous-black, polished, antennæ, palpi and feet testaceous.

Inhabits Missouri.

Body deep piceous-black, highly polished, immaculate : antennæ and palpi pale testaceous ; terminal joint of the former much largest, abruptly narrowed at tip : thorax with minute, obsolete punctures each side ; angles acute ; an obsolete, indented spot at the posterior angle ; base dilated somewhat in the region of the scutel : elytra with obsolete, remote series of punctures, rather more distinct near the external margin ; two impunctured striæ near the suture on each elytron : pectus and venter with a few yellow hairs : feet pale testaceous, with scattered hairs.

Length not quite one-tenth of an inch.

In considerable numbers on plants near the [91] Konza village. The elytra appear perfectly smooth and polished to the eye, and to an ordinary magnifier.

[A species of *Olibrus*, unknown to me.—LEC.]

2. *P. PENICILLATUS*.—Black, glabrous, oval ; thighs ciliate at tip.

Inhabits the United States.

Body oval, entirely deep black, glabrous, impunctured, polished : antennæ piceous-black, with sparse, short setæ ; terminal joints with cinereous, short pubescence : thorax minutely punctured ; angles subacute ; elytra, humeral angle subacute, with obsolete, distant series of punctures, and an impressed stria near

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the suture; thighs ciliate at the inferior tip; tibia piceous black: venter with reflected hairs.

Rather larger than the preceding species.

Found near Engineer Cantonment.

It differs from *pallipes* in its differently colored feet, and ciliate tip of the thighs. In many parts of the United States, this species is found in the seed vessels of such plants of wheat as are destroyed by the parasitic vegetable called *smut*.

AGATHIDIUM Illig. Latr.

A. PALLIDUM.—Body yellowish-testaceous; elytra with very minute, transverse lines.

Inhabits Missouri.

Body oval, convex, yellowish-testaceous, glabrous: head with a few hairs beneath the edge; [92] eyes prominent, hemispherical, black: palpi subulate: antennæ hirsute, clavate; club oblong, perfoliate; second joint of the club minute: thorax impunctured: scutel minute: elytra rugose in transverse very minute lines: thighs with very minute spines above: tibia with prominent, rigid spines.

Length more than three-twentieths of an inch.

A single specimen occurred under wood, at Engineer Cantonment.

[This insect is unknown to me. It is perhaps an *Anisotoma*. —LEC.]

COCCINELLA.

1. C. UNDULATA.—Black; exterior margin of the thorax, and undulated exterior margin and spot of the elytra, yellowish.

Inhabits Missouri.

Body deep black, punctured: head slightly hairy before: punctured obsolete: antennæ yellowish-testaceous: thorax with acute punctures; lateral margin white: scutel triangular; tip acute: elytra, punctures dilated, slightly indented; a large white spot on the centre of each, and an undulated, white exterior margin: undulations three: feet yellowish-testaceous, piceous at base.

Length rather more than one-tenth of an inch.

Var. a. Undulated margin interrupted into three spots.

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Var. b. Central spot of each elytron extended backward, and confluent with the tip of the margin. [93]

[Belongs to *Hyperaspis*; the name being preoccupied, was changed to *H. elegans* by Mulsant. *C. lugubris* Randall, is perhaps a variety of this species.—LEC.]

2. *C. MALI*.—Elytra brownish red; each with seven black spots; and a common one on the scutel.

Inhabits North America.

C. mali Melsh. Catal.

Head black; two white spots between the eyes: thorax black; two small white spots at the base, and a white lateral margin including a black spot; anterior edge yellow; spots on the elytra placed 1, 3, 3, and a common one at the base: beneath black; margin of the abdomen fulvous: feet testaceous: thighs black.

Length seven-twentieths of an inch.

Var. a. Spots of the elytra surrounded with a whitish areola.

Varietas *ocellata* Melsh. Catal.

Var. b. Ground color of the elytra whitish.

C. ocellata Melsh. Catal.

[Belongs to *Myzia* as reformed by me, Proc. Acad. Nat. Sc. Phil. 6, 132, and is identical with the European *M. 15-punctata*, *C. labiculata* Say, ante, 1, 192, is the same.—LEC.]

3. *C. PARENTHESIS*.—Elytra pale yellowish, each with a spot; posterior lunule and common spot at base.

Coccinella parenthesis Melsh. Catal.

“ *5-notata* Knoch in Melsh. Catal.

Inhabits the United States.

Head black; labrum testaceous; a white, abbreviated, frontal line, and a spot near each eye: thorax black; a square spot at base; anterior and lateral margin, and abbreviated, acute line before, white: elytra with a humeral, black spot; a common one near the base connected with the scutel; [94] a large lunule, occupying the posterior half of the elytron, sometimes interrupted into two distinct spots: beneath black.

Length one-fifth of an inch.

[Belongs to *Hippodamia*, and was afterwards described as *C. tridens* Kirby, and *H. lunato-maculata* Motsch.—LEC.]

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4. *C. TIBIALIS*.—Elytra pale yellowish-red, with a common spot near the base, and six black spots on each.

Inhabits Missouri.

Head black; frontal spot, and all before the eyes, white: thorax black: anterior and lateral margins white, so branched as almost to inclose a black spot on each side: elytra pale orange; spots placed 1, 2, 2, 1: beneath black: venter margined with pale orange: tibia and tarsi testaceous.

Length more than one-fifth of an inch.

[Belongs to *Hippodamia*, and is the same as the European *H. 13-punctata*.—LEC.]

5. *C. BIOCULATA*.—Elytra red; each with a black spot on the middle.

Inhabits the United States.

Head black; orbits white: thorax black; a large marginal spot; anterior margin, and two spots at the base, white: elytra reddish; a transverse, oval, black spot on the middle of each, sometimes included in an obsolete, white areola: beneath black: venter margined with rufous.

Length one-fifth of an inch.

The anterior margin of the thorax is sometimes black like the disk, and the basal spots are wanting.

[Mulsant considers this as identical with the European *C. bi-punctata*.—LEC.]

6. *C. ALBIFRONS*.—Elytra yellow; suture and two spots on each, black; head and anterior part of the thorax whitish. [95]

Inhabits Missouri.

Head yellowish: thorax black; anterior and lateral margins, and abbreviated line before, white: elytra, with the suture, tip, outer edge, and two spots, black; spots placed one near the humerus, and the other behind the middle.

Length less than one-fifth of an inch.

Taken on the Missouri by Mr. T. Nuttall.

[Belongs to *Brachiacantha*.—LEC.]

7. *C. ABDOMINALIS*.—White; thorax with seven, elytra each with eight black spots.

Inhabits Arkansa.

Yellowish-white: head immaculate: thorax with seven black spots placed 2, 5; the anterior ones, placed on the middle, ob-1824.]

long, oblique, slightly undulated, and nearly confluent at tip with the posterior intermediate one: elytra 8-spotted; spots small, placed four near the base, three on the middle, and one near the tip: postpectus dusky: venter testaceous: feet pale.

Length one-fifth of an inch.

8. *C. HUMERALIS*.—Black; elytra with a humeral spot, and one behind the middle, red.

Inhabits Arkansa.

Body deep black: head, a white spot each side between the eyes: antennæ and palpi pale: thorax, an obsolete, whitish, lateral margin and anterior angle: elytra, a large, oval, yellowish-red, humeral spot, and an orbicular, red, subsutural one on each, rather behind the middle.

Length more than three-twentieths of an inch. [96]

Two specimens were obtained near the Rocky Mountains.

[Unknown to me.—LEC.]

9. *C. 20-MACULATA*.—Whitish; thorax with five, elytra each with nine black spots.

Inhabits Missouri.

Coccinella 20-maculata Knoch in Melsh. Catal.

Yellowish-white: thorax with four rather large, equal, black dots placed in a semicircular series, and enclosing near the base a smaller, obsolete dot: elytra, each with nine spots placed 2, 3, 3, 1, the two central ones confluent: postpectus and venter, excepting the terminal segment, black.

Length one-tenth of an inch.

[Belongs to *Psyllobora*.—LEC.]

ENDOMYCHUS Fabr. Latr.

E. BIGUTTATUS.—Black; elytra sanguineous, with two black spots.

Inhabits the United States.

Head, thorax, and scutellum black, impunctured; two impressed, longitudinal, abbreviated lines, one on each side at the base of the thorax: elytra sanguineous, with numerous small, irregular punctures, and two orbicular, black spots, the smaller one placed behind the humerus, and the other, large, placed behind the middle, touching the margin.

Length near one-fifth of an inch.

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PSELAPHUS Herbst. Latr.

1. *P. CARINATUS*.—Reddish-brown; elytra rectilinearly truncated; tergum tricarinate, and with an elevated edge; anterior tibia arcuated.

Inhabits the United States.

Body with short hairs: head deeply indented on the front; vertex with two small indentations: maxillary palpi with the three last joints dilated; the ultimate one triangular or cordate, being widely emarginate at tip; the inner lobe somewhat mucronate; penultimate joint also large and triangular, with a slender spine or seta as long as the joint placed on the exterior angle; antepenultimate joint rounded, with a spine on the exterior side, similar and equal to that of the other joint: thorax rounded, somewhat angulated on the middle of the side, punctured: elytra not quite half the length of the abdomen; minutely punctured, with two obtuse, elevated lines on each, obsolete before the tip, and with an impressed groove between them: tergum rather darker than the elytra, carinated along the middle, and with an abbreviated, carinate line each side at base; edge elevated: anterior tibia somewhat arcuated, gibbous before in the middle.

Length less than one-tenth of an inch.

This species is not uncommon, and is often found under the loose bark of the yellow pine; it [98] is referrible to the genus *Ctenistes* Reich. The elytra are terminated by a straight line like those of the *dresdensis*. It seems probable that the cordate, terminal joint of the maxillary palpi, and the two elongated spines of the preceding joints, may be peculiar to one sex, as a specimen in my collection has but a single spine, and the terminal joint is acute and not dilated.

[Belongs to *Tmesiphorus*.—LEC.]

2. *P. RIPARIUS*.—Reddish-brown; elytra rectilinearly truncated, half the length of the tergum; tergum simple; anterior tibia rectilinear.

Inhabits Missouri.

Vertex convex, with an impressed line each side: antennæ, joints from the third to the eighth, inclusive, subequal; ninth a
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little larger, but hardly longer; tenth transversely oval, double the size of the preceding one; eleventh still wider, and nearly double the length of the two preceding ones conjunctly: maxillary palpi unarmed; terminal joint conic-securiform: thorax narrowed behind, not closely applied to the elytra; with a longitudinal, impressed line; sides not angulated in the middle, but indented on the margin: elytra half the length of the abdomen; humeral tubercle oblong: anterior tibia rectilinear: tergum convex, simple.

Length more than one-twentieth of an inch.

A little smaller than the preceding. It probably belongs to the genus *Bryaxis* of Leach.

[Belongs to *Batrisus*.—LEC.]

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3. P. DENTATUS.—Elytra nearly rectilinearly truncated, half the length of the tergum; tergum simple; anterior tibia arcuated.

Inhabits the United States.

Head blackish; a small indentation above each antenna: antennæ rufous; joints, from the third to the eighth, inclusive, subequal; ninth a little larger, but hardly longer; tenth transverse, double the size of the preceding one; eleventh oval, wider than the tenth, and as long as the 8th, 9th and 10th conjunctly: thorax nearly orbicular, slightly prominent on the sides, blackish; an oval indentation at base, and an orbicular one each side: elytra reddish-brown, nearly half the length of the abdomen; humeral tubercle oblong; an impressed line on each elytron obsolete behind: tergum convex, simple, blackish: anterior tibia a little arcuated.

Length one-twentieth of an inch.

Var. a. Reddish-brown.

Smaller than either of the preceding species.

[A *Bryaxis*.—LEC.]

[From Vol. 4, 1825, pp. 307—345.]

Descriptions of new **HEMIPTEROUS INSECTS** collected in the Expedition to the Rocky Mountains, performed by order of Mr. Calhoun, Secretary of War, under command of Major Long.

Read June 1st, 1824.

GRYLLUS Fabr.

1. *G. ÆQUALIS*.—Hemelytra spotted with brown; wings pale yellowish at base, with a black band and dusky tip.

Inhabits the United States.

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Head varied with brown and light gray: thorax varied with brown and dull rufous, with a carinate line: hemelytra dark cinereous, with numerous unequal small dark brown spots: wings sulphurous at base, then a black band arcuated behind so as nearly to reach the inner angle; tip dark cinereous, darker at the angle, or with small fuscous spots on that part: feet pale cinereous, spotted with fuscous: hind thighs within with four black bands: posterior tibiæ sanguineous.

Length to the tip of the hemelytra, one inch and two-fifths.

Not an uncommon species. The thorax is not gradually raised into a carina, but the line is abrupt and of little elevation.

2. *G. NUBILUS*.—Black; wings glaucous.

Inhabits Arkansa.

Head with the frontal line not grooved; thorax with a slightly and equally elevated line; hemelytra rather short; feet dusky, tinged with dull rufous: posterior pair black, the thighs with a whitish annulation near the tip: beneath pale.

Found in abundance near the base of the Rocky Mountains, in company with the succeeding, and like it ascending into the atmosphere in great numbers.

3. *G. BIVITTATUS*.—A yellowish line each side above from the front to the tip of the hemelytra.

Inhabits Arkansa.

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Mouth white; superior orbits yellowish: thorax with an elevated capillary line, and three transverse impressed ones, a yellowish marginal line each side: hemelytra with small dusky spots
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each side, above margined with greenish yellow: wings pale green: feet pale, anterior and intermediate thighs somewhat arcuated, with a green line; posterior thighs with a green line on the exterior side and another above, which is faintly marked by two pale spots near the middle, a dusky annulation near the tip; posterior tibia green, pale towards the tip, and on the anterior side: abdomen pale with minute dusky spots; segments margined with dusky.

Length to the tip of the hemelytra one inch and three-tenths.

This species, with several others, occurred in great numbers near the mountains, and on one occasion we observed this species in company with several others, ascending to a great height in the air as if to commence a migration to a remote region.

[Belongs to *Caloptenus*, and is identical with *C. femoratus* Burm. Handb. 2, part 2, 638. *Acrydium flavovittatum* Harris, Ins. Injurious to Veg. 140, is a small variety, very common in the Atlantic States, and occasionally mixed with the larger specimens which occur in the western part of the country. It is very common on the salt marshes near Baltimore, and I have once or twice seen it in company with *C. femurrubrum* (Degeer), in considerable swarms in the air.

[Dr. Harris makes a very singular mistake in comparing this species with *Acridium olivaceum* Serv.—UHLER.]

ACHETA Fabr. Leach.

A. EXIGUA.—Head and thorax testaceous; feet whitish; abdomen black.

Inhabits Missouri.

Head testaceous, hairy, with obsolete dusky lines above, contracted before the eyes into a [310] short, obtuse, conical process: front vertical, trilineate, lines fuscous, convivant at the mouth: antennæ long, fuscous, pale at base: palpi white: thorax testaceous, hairy: hemelytra yellowish-white, right one entirely concealing the other: nervures (male) with but few anastomoses, at tip enclosing a large, oval, rugose, but membranous space: feet whitish; posterior thighs with a brown line on the exterior side; posterior tibia with three pairs of alternate spines, and larger ones at tip; abdomen black.

Length about a quarter of an inch. A male.

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Taken near the village of the Konza Indians. When dry, the head and thorax assume a light ferruginous color.

TRIDACTYLUS Oliv.

T. APICALIS.—Black, varied with white; wings edged and tipped with blackish.

Inhabits Southern and Western States.

Body deep black: head with a line each side, passing over the eyes, two spots at the superior base, and a line on the vertex furcate before, whitish: thorax margin and several abbreviated lines on the disk, white; feet banded and spotted with white, posterior thighs trifasciate with white; posterior tibiæ nearly rectilinear: elytra, exterior margin and common spot behind the middle, white: tergum fasciate with white. [311]

Length more than one-fifth of an inch.

This species is numerous on St. John's river, in East Florida and on the Missouri, as far as Council Bluff. It is always found on the moist shores not far distant from the water's edge.

[This is *Xya apicalis* Burm. Handb. 2, 2, 741.—UHLER.]

PENTATOMA Oliv. Latr.

1. *P. ARBOREA*.—Brownish-cinereous, punctured; clypeus emarginate and bidentate; thorax dentate and with a prominent truncated spine behind each side; feet annulate.

Inhabits Missouri.

Body brownish-cinereous, with numerous black punctures; head with a longitudinal obsolete elevated line, and an abbreviated one each side of its middle: clypeus emarginate at tip, lateral edge terminating in an angle near the tip: antennæ, base of the second joint pale: thorax unequal before, dentated each side; teeth irregular, unequal, acute; posterior angles extended into a prominent, dilated, slightly reflected, truncated projection, which has two or three small teeth: hemelytra with the central nervure conspicuous; nervures of the membranaceous tip black, and with black arborescent lines in the interstitial spaces: wings dusky, iridescent; nervures black: feet black: thighs pale at base and annulate with pale near the tip: tibia annulate with pale: tarsi second joint pale: tergum deep purple, black impunctured; [312] margin brownish cinereous, punctured, varied with transverse 1825.]

abbreviated black lines placed triangularly, and pale : venter pale, pruinous, with dusky points : stigmata each composed of three distinct black points placed obliquely : pectus and pospectus pale, dusky each side.

Length less than three-fifths of an inch.

A common species, and seems to approach *Halys annulata* Fabr., but it does not, in all respects, agree with the description of that species.

2. *P. CLANDA*.—Pale yellowish ; thorax with two spots, hemelytra and scutel with a line, black.

Inhabits Missouri.

Head densely punctured, rufous, blackish at base : antennæ rufous, blackish at tip : thorax pale yellow, with two large transverse brown spots, posterior margin brown ; posterior angles not prominent : scutel pale yellow, with a broad brown line, bifid before, hemelytra pale yellow on the basal portion with a brown line and inner edge ; tip blackish : beneath pale yellow : feet rufous : tibiæ with a yellowish annulus : venter with two series of black spots, and on each side a brown vitta ; ultimate segment with only three spots.

Length two-fifths of an inch.

Var. a. Spots and lines of the upper surface, black ; venter with six series of black spots.

Var. b. Sanguineous ; head, two spots. and posterior margin of the thorax, disk of the scutel, hemelytra, pectus and feet, black ; venter with six series of black spots.

Var. c. Sanguineous ; head, two spots and posterior margin of the thorax, disk of the scutel, hemelytra, pectus and feet, black ; venter black on the disk.

A handsome species, subject to much variation.

3. *P. EXAPTA*.—Sanguineous ; thorax with a black line ; scutel black with a yellow margin.

Inhabits Missouri.

Head at base and antennæ, black : thorax with a transverse black line before the middle ; posterior angles rounded, not prominent : scutel black, with a yellow margin, excepting at base : tergum blackish, with a rufous margin : hemelytra black, exterior

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basal margin yellow : pectus more or less varied with black : tibiæ black.

Length about a quarter of an inch.

4. *P. PUNCTIPES*.—Pale olivaceous ; thorax bilineate transversely with white ; scutel black, with a white margin.

Inhabits the United States.

Head black : antennæ pale at base, and somewhat biannulate with whitish : proboscis white : thorax blackish before ; a slender, transverse, abbreviated white line on the anterior submargin ; anterior and lateral edges white, the former abbreviated ; posterior angles rounded, not prominent : scutel, lateral and terminal narrow margins [314] white : hemelytra with the exterior basal narrow margin whitish : tergum black : beneath blackish-cupreous : feet white, with black points ; venter, margined with white.

Length from one-fifth to one-fourth of an inch.

A common species, inhabiting almost all parts of the Union, and may be frequently observed on the mullein.

5. *P. PUNCTIPES*.—Greenish-yellow, punctured ; thorax with prominent angles each side, behind ; membranaceous tip of the hemelytra with brown dots ; feet with black points.

Inhabits the United States.

Body greenish-yellow, punctured : clypeus slightly biemarginate at tip, small spot above the eyes impunctured : antennæ pale, penultimate joint at tip and ultimate one black : rostellum nearly attaining the base of the posterior feet, with a longitudinal black line and tip : thorax, anterior lateral edge dentate ; teeth minute, subequal ; behind the middle each side extending into a prominent, subacute angle : scutel destitute of elevated lines, rather paler at tip : hemelytra upon the membranaceous tip punctured with brown, punctures orbicular, numerous : wings whitish, iridescent ; brachial nervure fuscous, black towards the base, feet with numerous black points : tergum deep black, margin greenish-yellow, with geminate, black, dilated lines, which unite with the color of the disk, but do not attain the edge. [315]

Length half an inch.

Not uncommon in Missouri and in Pennsylvania, and resembles *P. ictericus* Fabr.

[The specific name has been inadvertently repeated.—LEC.]

6. *P. FACETA*.—Green with a pale fulvous margin and longitudinal line.

Inhabits Missouri.

Body oval, green: head entire before: antennæ, excepting the first joint, dusky: thorax with a pale fulvous lateral margin and fulvous edge; a longitudinal pale fulvous line in the middle; posterior angles rounded, not prominent: scutel not abruptly contracted in any part, with a longitudinal pale fulvous line on the middle: hemelytra with a pale fulvous lateral margin and deep fulvous edge: tergum blackish, with a fulvous margin.

Length nine-twentieths of an inch.

CYDNUS Fabr.

1. *C. BILINEATUS*.—Black, polished, with sparse lateral hairs; tarsi dull testaceous.

Inhabits the United States.

Body deep black, polished: head with two longitudinal, parallel, approximate, indented lines, abbreviated at the vertex, the intermediate space somewhat resembling a carina; lateral margin with sparse black hairs: clypeus subentire, or obsoletely emarginate at tip: antennæ and rostellum piceous: thorax a little narrowed before by a slightly arcuated lateral edge: lateral margin [316] sparsely hirsute; an indented transverse line on the middle: posterior margin somewhat convex, edge slightly arcuated: scutel large, remotely punctured: hemelytra densely coriaceous at base, membranaceous tip white or pale brownish: wings pale: feet spinous, piceous-black: anterior tibiæ compressed, ciliated with spines: posterior pairs irregularly spinous: tarsi dark testaceous.

Length from three-tenths to two-fifths of an inch.

Not uncommon in Pennsylvania as well as in Missouri.

[Belongs to *Aethus* Dallas.—UHLER.]

2. *C. SPINIFRONS*.—Dark reddish-brown: clypeus ciliate with spines; anterior thighs with an oblique, linear, emarginate spine.

Inhabits Missouri.

Body dark reddish-brown, punctured: clypeus armed on the edge with erect, equidistant, prominent spines: antennæ pale reddish-brown, second joint minute: thorax with dilated punctures, obsolete on the anterior disk, a transverse indented line

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on the middle, lateral edge with a few hairs: scutel nearly as long as the thorax, punctures dilated, tip acute: hemelytra reddish-brown, punctures approximate, membranaceous tip white: feet pale reddish-brown: anterior thighs with an oblique, robust, linear, emarginate process near the middle beneath, and a small, robust spine near the tip; tibiæ with prominent rigid spines on the exterior edge: intermediate thighs mutic, tibiæ armed with [317] moveable spines: posterior thighs with a slightly flexuose spine near the tip beneath, and two or three small tubercles at tip; tibiæ armed with a few moveable spines: postpectus blackish.

Length three-twentieths of an inch.

Found near Engineer Cantonment, common.

[Belongs to *Amnestus* Dallas.—UHLER.]

COREUS Fabr.

1. C. ALTERNATUS.—Fuscous; thighs spinous beneath; margin of the abdomen black, with five white lineolar spots; head mutic.

Inhabits Missouri Territory.

Body deep blackish-brown: eyes rufous, a moveable black pupil: stemmata sanguineous: antennæ blackish, robust, two terminal joints rufous, equal: rostellum pale, tip black: thorax punctured, gradually elevated behind, attenuated before, anterior termination as wide as the base of the head, anterior lateral edge slightly dentate, posterior angles rounded: scutel of the male tinged with rufous: hemelytra tinged with rufous, punctured: feet black: tarsi rufous: thighs, a double series of hardly prominent, robust spines beneath, of which the two opposite terminal ones are much more prominent, distinct, and acute: abdomen, margin black, alternating, with five, oblique, white lines: tergum, disk sanguineous: male, posterior thighs much dilated, very robust, slightly tuberculated above, terminal spines not more prominent than the [318] others, a large prominent spine on the inferior middle: posterior tibiæ dentate towards the tip, refracted in the middle, and with a robust, prominent acute spine on the angle.

Length of the male more than four-fifths of an inch; female nearly three quarters.

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Somewhat similar to *C. galeatus* Fabr., but is considerably larger, the head is unarmed, and in other respects sufficiently distinct. It belongs to the genus *Mictis* of Leach.

2. *C. ORDINATUS*.—Head fulvous, with two black lines; thorax with the lateral edges fulvous.

Inhabits the United States.

Head dull fulvous, with two broad, black, longitudinal lines: antennæ fuscous: thorax dull fulvous, with numerous, irregularly disposed black punctures, lateral narrow margin fulvous, and with an obsolete interrupted or abbreviated dull fulvous line in the middle; posterior angles rounded, not prominent; posterior margin a little depressed: scutel colored and punctured like the thorax: hemelytra also dull fulvous, with numerous black punctures irregularly disposed; membranaceous portion black: tergum on the lateral margin black, the segments fulvous at base: beneath pale fulvous, with a few black punctures: feet with numerous black points.

Length three-fifths of an inch.

This is one of the most common of our species: when taken it diffuses an odor which has been [319] compared to that of a ripe pear. I have found it in Pennsylvania, Missouri, and Florida.

3. *C. ARMIGERUS* [ARMIGER].—Brown, feet white, spotted with black: head spinous above the antennæ; margin of the tergum black, with five white lineolar spots.

Inhabits Missouri Territory.

Body brown above, beneath pale: eyes prominent, rufous: stemmata sanguineous; above the origin of each antenna, an elevated, prominent, acute spine, half as long as the basal joint of the antenna: antennæ, first joint white, spotted with black, second and third black, white at base and tip, terminal joint rufous: thorax punctured, elevated behind, descending almost vertically and attenuating to the head; anterior lateral edge dentate, posterior angles dilated and terminated in an angle, from whence the posterior margin descends sinuously and obliquely, terminating in a short acute spine each side of the base: base transversely rectilinear: scutel with three black spots at base: hemelytra, a white oblique line in the middle on the mem-

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branaceous portion; tip blackish: feet white, spotted with black; thighs armed at the tip beneath, with two short acute spines: tergum sanguineous, base, tip, and margin black, the latter with five white oblique lines: venter pale, spotted with black.

Length of this female eleven-twentieths of an inch. [320]

I have not yet seen the male of this species, it bears a general resemblance to *C. galeatus* Fabr. and is about equal to that species in magnitude, but it may be at once distinguished by the white transverse line at the base of the membranaceous portion of the hemelytra.

4. *C. LATERALIS*.—Pale reddish-brown, punctured: hemelytra with spotted nervures; feet pale, spotted.

Inhabits the United States.

Body somewhat hairy, pale reddish-brown, with much dilated approximate punctures: head somewhat unequal, two obsolete impressed lines between the antennæ, a blackish spot behind the eye: eyes dusky, pale before: antennæ brownish, with sparse hairs; terminal joint as long as the preceding one, dilated, with cinereous pubescence: thorax with three obsolete dusky spots before, and an impunctured whitish line abbreviated before; scutellum with a longitudinal, impunctured whitish line: hemelytra, nervures with black spots, interstitial spaces membranaceous; membranaceous tip immaculate, whitish: beneath with a distinct lateral red line; feet hairy, pale; thighs spotted with reddish-brown; pectus rufous: venter yellowish or rufous.

Length more than a quarter of an inch.

Found near Engineer Cantonment, and is not uncommon in Pennsylvania. [321]

LYGÆUS Fabr. Latr.

1. *L. RECLIVATUS*.—Black, spot on the vertex, three on the thorax and reclivate line on the hemelytra, red; a geminate white spot near the hemelytra.

Inhabits Missouri.

Body black, opaque, with a somewhat cinereous shade: head with a rufous spot on the vertex: thorax unarmed, with an obsolete, indented, transverse, punctured line before; three rufous spots behind the middle, inner spot not attaining the base, outer
1825.]

spot marginal extending from near the middle of the edge, to the posterior angle, and separated from the intermediate spot by a small velvet black one: scutellum a little elevated on the basal disk: hemelytra with a rufous, somewhat reclinate line from the humeral angle to the tip of the coriaceous portion, a velvet black spot on the middle, and a minute one at the inner basal angle; membranaceous portion deep black, polished; a large rounded geminate spot in the middle edge, and two small subtriangular ones at base, white: venter rosaceous, a double series of spots beneath, and one series each side, black.

Length rather more than two-fifths of an inch.

Resembles *L. turcicus* Fabr., but is at once distinguishable by the large white spot on the membranaceous moiety of the hemelytra, which is precisely [322] similar to that on the corresponding portion of the hemelytra of *L. punctum* Fabr.

3. *L. TRIVITTATUS*.—Black, thorax trilineate, and hemelytra marginate with rufous.

Inhabits Missouri.

Body black: eyes and stemmata sanguineous: thorax mutic; two indented transverse lines near the head, of which the anterior one is curved in the middle; three bright rufous lines, of which two are marginal; posterior edge obscurely rufous: hemelytra, coriaceous portion with a rufous exterior and posterior margin, membranaceous tip immaculate: trochanters rufous: tergum rufous with three lateral black punctures: venter, margin and middle rufous.

Length nine-twentieths of an inch.

Taken at Engineer Cantonment.

3. *L. BICRUCIS*.—Red; head, feet, anterior part of the thorax and tips of the hemelytra, black; inner edges of the hemelytra forming a yellow cruciate mark.

Inhabits the United States.

Body red: head black: stemmata remote, inserted near the eyes; projections for the reception of the haustellum, whitish: thorax mutic, posterior angles rounded, not salient, a large transversely oblong-quadrate, black spot before the middle, not attaining the anterior or lateral edges, partially interrupted in its middle by a reddish [323] subcruciate line; posterior edge yellow-

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ish; scutel black, an indented, large, triangular, paler spot each side on the disk: hemelytra, membranaceous tip black with a whitish edge; coriaceous portion red with a lineolar yellowish margin, which on the costal edge becomes red towards the humerus, inner submargin and edge with a black line: pectus and postpectus black, segments broadly margined with pale: feet black: stigmata and anus black.

Length about seven-twentieths of an inch.

Sometimes occurs in Missouri; I have also received a specimen from Mr. A. G. Oemler, of Savannah, Georgia.

4. *L. 5-SPINOSUS*.—Obscure rufous: posterior thighs five-spined; tergum red, margin lineate with black.

Inhabits the United States.

Body dull rufous, minutely and densely punctured: head triangular: stemmata sanguineous: antennæ, second and third joints black at their extreme tip, fourth joint dusky, pale at base: rostellum pale, black at tip; setæ black: thorax obsoletely indented longitudinally in the middle and transversely before the middle; posterior angles salient, acute, blackish at tip: scutel pale at tip: feet pale rufous, whitish at base: posterior thighs more robust, rufous at tip, five-spined beneath: pectus, postpectus and head beneath, black in the [324] middle: tergum red: margin with about four pale spots, and black lineolar edges to its segments.

Length of the body more than half an inch.

5. *L. EURINUS*.—Blackish, hairy, punctured; tergum black, disk rufous, margin with four yellowish spots; posterior thighs three-spined.

Inhabits Missouri and Arkansa.

Body blackish, hairy, punctured: head triangular: eyes prominent: antennæ, second and third joints dull testaceous, blackish at their tips: thorax densely punctured, mutic: hemelytra black-brown: feet black: tibiæ and first joint of the tarsi, dull testaceous, with black tips: posterior thighs three-spined beneath, and one or two smaller spines at tip: abdomen, reflexed margin with four yellowish spots: tergum rufous on the basal disk.

Length about half an inch.

1825.]

The body of this insect as well as the preceding, is long and narrow, the diameter of the head which passes through the eyes is but little shorter than the breadth of the thorax.

ACANTHIA Latr.

A. INTERSTITIALIS.—Black, hemelytra with a few whitish spots, tip whitish with black nervures and spots.

Inhabits Missouri.

Body leaping, black-brown, with short yellowish hairs: eyes large, deep castaneous, whitish at [325] the anterior base: stemmata reddish-yellow: clypeus and labrum whitish: hemelytra deep black, with distant, very short yellowish hairs at base, four or five hyaline whitish spots on each hemelytron; middle of the tip of the coriaceous portion hyaline, membranaceous tip hyaline, nervures deep black, with a blackish oblong-quadrate spot between each pair; margin dusky, with a black spot at the exterior tip: feet pale before and black behind: tibia somewhat annulate: wings white.

Length more than three-twentieths of an inch.

Not uncommon on the shore of the Missouri river, skipping nimbly about.

TINGIS.

T. OBLONGA.—Head with three elongated acute spines; nervures brown; exterior margin of the hemelytra white.

Inhabits Missouri.

Body elongate, narrow, whitish: head with three elongate, linear acute spines, of which two are above the antennæ, and one between them: eyes black: antennæ testaceous, terminal joint blackish: thorax and scutel conjunctly, black in the middle; three elevated white lines and reflected margin; a much elevated, acute crest at the anterior termination of the intermediate line: hemelytra, a double slightly elevated line, confluent at tip and at base, and including a small blackish dot; [326] nervures of the tip and inner margin black-brown; exterior margin white immaculate: pectus, postpectus and venter black: feet pale testaceous.

Length nearly one-eighth of an inch.

ARADUS Fabr.

A. QUADRILINEATUS.—Brown; antennæ robust; clypeus bifid; thorax quadrilineate, edges irregularly and minutely dentate.

Inhabits Missouri.

Body dull light-brown, opaque: head with two longitudinal indented lines, and two small indented black spots between the eyes: clypeus trifid at tip, intermediate division longest, obtuse at tip, exterior divisions acute at tip, hardly attaining the base of the second joint of the antennæ: eyes very prominent: antennæ robust, two terminal joints darker, ultimate one shorter and less dilated than the preceding one: thorax transversely oblong-oval; four elevated, parallel, equidistant, longitudinal lines, and a lateral, abbreviated one; lateral edge slightly reflexed and dentate, with numerous minute, irregular teeth: scutel large, impressed each side of the middle, and near the tip: hemelytra minutely dentate on the exterior basal edge: feet dusky, pale near the incisures.

Length rather more than a quarter of an inch.

[327]

REDUVIUS Fabr.

1. R. RAPTORIUS.—Obscure brownish; head, thorax, and anterior feet, spinous, the latter raptatory.

Inhabits the United States.

Body oblong, obscure brownish: head contracted above the eyes, spinous; six larger spines before the contraction, placed two and two, and two or four larger ones behind the contraction: stemmata sanguineous: eyes inserted in the lateral middle of the head: antennæ inserted near the tip of the clypeus, with dilated annuli of dull rufous and pale: rostellum slightly arquated, pale: thorax contracted in the middle, obsoletely canaliculate, with short, numerous, obtuse spines before the contraction, and dense granuli behind it; posterior angles hardly prominent: feet somewhat pale, subannulate, granulated; anterior pair raptatory; thighs unequal, anterior pair robust, villous, dusky, armed with an erect, prominent, obtuse spine near the tip above, and a double series of ten equal, equidistant, acute spines beneath; anterior tibiæ with a double series of six similar spines on the inner side: tergum rufous on the disk, margin varied with black and pale: 1825.]

hemelytra, membranaceous tip with a longitudinal reddish-brown line.

Length more than nine-twentieths of an inch. [328]

Observed to be not uncommon in Missouri, as well as in Pennsylvania.

2. *R. SPISSIPES*.—Thorax and hemelytra light reddish-brown, edged behind with white; venter black, incisures whitish; feet thick.

Inhabits Arkansa.

Head black, posterior lobe with two tubercles: thorax light reddish-brown; anterior lobe with dilated, black, oblique, or arcuated lines, of which some are confluent; posterior lobe hardly more elevated than the preceding, with a black posterior submargin and a white posterior margin: scutellum black, margined with white, and tipped by a few hairs: hemelytra, coriaceous portion light reddish-brown, with a narrow whitish posterior margin, membranaceous portion black or dark fuscous: feet thickened, black, hairy: coxæ bright red: abdomen black, margin and band on each segment, white.

Length thirteen-twentieths of an inch.

The feet resembles those of *R. crassipes* Fabr., but it is a very distinct species.

CORIXA Geoff.

1. *C. INTERRUPTA*.—With black and yellowish transverse lineations; feet pale; face pale green.

Inhabits Missouri.

Head pale green: eyes large, triangular, reddish-brown: thorax transversely lineated with about twenty-two blackish and pale yellowish, equal, [329] alternate lines: hemelytra rounded at tip, with alternate, numerous, abbreviated, transverse, blackish, and interrupted, pale yellowish lines; lines near the tip much undulated and irregular; margin with about four obsolete blackish spots, which appear to be still more faintly prolonged into fasciæ: epipleura pale, destitute of the transverse lines, but the obsolete spots are visible upon it; edge blackish: wings white: feet pale: tergum black, margin pale: pectus and postpectus testaceous; a large black spot between the anterior pairs of feet.

Length of the body half an inch.

This species equals *C. Geoffroyi* Leach, in length, but is less robust.

2. *C. ALTERNATA*.—With black and pale transverse lineations; face and feet pale whitish; beneath black.

Inhabits Missouri.

Head pale greenish-white: eyes triangular, large, reddish-brown, dark: thorax black, with about eight transverse, pale, equal lines: elytra with very numerous, alternate, interrupted, black and pale yellowish lines, which become more irregular and undulated towards the tip: wings white: epipleura pale, immaculate, edge blackish: feet whitish: pectus and postpectus black: tergum black, with a white margin: venter black, with a pale margin and terminal incisures.

Length a quarter of an inch.

[330]

Very much resembles the preceding, but is much smaller, darker, and the prevailing color beneath is black.

CICADA Oliv. Latr.

1. *C. PRUINOSA*.—Body above varied with greenish and black, beneath pruinose: abdomen with a white spot each side, at base, one at the middle margin and another near the marginal tip.

Inhabits the United States.

Wings, nervures of the hemelytra green to the middle, inner edge of the costal nervure brownish, nervures beyond the middle brownish: anterior thighs varied with dusky; anterior pairs of legs dusky at the exterior tip: tarsi varied with dusky: tergum black: segments destitute of differently colored posterior margins, basal segment with a white pruinose spot each side of the back, another transversely elongated and attenuated one on the lateral base of the third segment, and another upon the lateral base of the caudal segment: venter dusky in the middle: caudal segments beneath testaceous, dusky near the middle tip.

Length two inches, to the tip of the hemelytra.

Found on the Missouri; it is also very common in Pennsylvania, and much resembles *C. tibicen* of Fabr., but it differs in being pruinose beneath, and in having white abdominal spots.

2. *C. MARGINATA*.—Body above varied with [331] greenish
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and black, beneath pruinose; tergum black, the segments with yellowish posterior margins.

Inhabits Missouri.

Head and thorax greenish-yellow, slightly varied with black: scutel black, with the W and elevated x greenish-yellow: hemelytra with the nervures as far as the middle, green, beyond the middle, brown: tergum black, the segments yellowish-brown on their posterior margins; all beneath testaceous, covered with a mealy white.

Length more than two inches and a quarter to the tip of the hemelytra.

Differs from the preceding by being larger, by having the abdominal segments margined, and by being destitute of the white spots on the tergum. The basal spine of the anterior thighs is much more oblique than in the preceding species. This cannot be the *costalis*, if the descriptions of that species are correct.

3. *C. DORSATA*.—Scutel varied with blackish, greenish-yellow and white; tergum black, a dorsal and lateral line of white spots.

Inhabits Missouri.

Head and thorax varied with greenish-yellow and black: scutel blackish-chestnut, the W and x marks greenish-yellow, lateral lines of the W white near the thorax, a white line from the humerus is interrupted by the anterior lines of the x , and also in the middle between these two lines, a white [332] spot between the two lateral lines of the x : tergum black, a dorsal line of white spots and a marginal line of white spots which are continued over the terminal segment, the lateral spot of the first and second segments is very much dilated and confluent, that of the third segment is much elongated and attenuated towards the back, a white oblique spot on the first segment each side of the dorsal line; all these white marks are pruinose.

Length two inches to the tip of the hemelytra.

Found in the prairie near the Konza village, in which vicinity it is rather common. Its note is harsher than that of our *pruinosa*, and is generally uttered when the animal rises in flight, alarmed on the approach of the traveller.

4. *C. AURIFERA*.—Body covered with short golden pubescence; beneath hairy.

Inhabits Missouri.

The nervures of the hemelytra are yellowish to the penultimate anastomosis, beyond which they are brown; the two particular anastomoses are strongly marked with blackish: head testaceous: thorax but little varied with black: scutel black, with the usual testaceous lines: tergum black, densely covered with the golden hair: beneath pruinose.

Length one inch and a half nearly, to the tip of the hemelytra.

This species differs from the preceding in being [333] smaller, and in having the golden pubescence, which is more dense on the head and thorax.

Found near the Konza village.

5. *C. PARVULA*.—Anterior thighs with three parallel, subequidistant spines.

Inhabits Missouri.

Body dull testaceous: head with a dilated dusky line each side on the front: stemmata reddish-yellow: antennæ rather large, longer than the head: labrum with dusky rugæ and a longitudinal impressed line, abbreviated at the termination of the rugæ: thorax indistinctly varied with black, the lateral edge not prominent: scutel quadrilineate, lines dilated, abbreviated, intermediate ones very short, terminal α hardly elevated: hemelytra, with a reddish-yellow reflection: nervures blackish beyond the middle; costal nervure very conspicuously so; no marginated anastomosis; segments of the tergum dusky at base: thighs and trochanters varied with black: anterior thighs tridentate; teeth prominent, subequidistant, parallel, posterior one longest, anterior one shortest.

Length to the tip of the hemelytra seven-tenths of an inch.

A very small species. I have a specimen from near the Rocky Mountains, which is entirely green, it is a female, and probably of the same species with the above. Its length to the tip of the hemelytra, is four-fifths of an inch. [334]

6. *C. SYNODICA*.—Black, varied with pale testaceous; tergum annulate.

Inhabits the base of the Rocky Mountains.

Body above, black, varied with pale testaceous: head with a transverse line before the eyes, and about three triangular spots 1825.]

at base, testaceous: clypeus above destitute of grooves: thorax sinuous behind, the posterior transverse impressed line placed very near the posterior edge; posterior angles prominent, rounded, lateral edge obtusely emarginate before the posterior angles; margin, two oblique lateral lines and a longitudinal dorsal one testaceous: scutel with a lateral marginal line, the elevated x and two dorsal dilated lines, testaceous; the dorsal lines are merely emarginate on the inner side, and do not form the W; at the tip of each anterior line of the x is a conspicuous, black, impressed puncture, and behind the x the posterior edge of the scutel is visible and testaceous: beneath, very pale testaceous; rostrum black each side of the grooved base, in the middle and at tip: feet lineated with black; anterior thighs bispinous: tergum with narrow posterior reddish-brown margins; terminal and anal segments testaceous, the latter with two black spots: nervures of the wings testaceous, beyond the middle fuscous.

Length to the tip of the hemelytra less than one inch.

Dr. James and Mr. Peale observed this species in great numbers in one locality, at the base of [335] the Rocky Mountains: but it did not occur elsewhere.

FULGORA.

F. SULCIPES.—Thorax with a few black punctures; nervures of the hemelytra margined with black; thighs with black grooves.

Body pale: head yellowish-green: rostrum elongated, as long as the head and thorax, with an elevated line and edges, two black points between the eyes, beneath between the eyes three lines and edges elevated: thorax with a large black spot behind each eye, and several distant black points, two conspicuous black points between the larger ones: hemelytra with pale nervures, which are margined with black: feet with black grooves; anterior and intermediate tibiæ with an annulus and tip and tarsi black; posterior tibiæ seven-spined, besides the terminal spinous semi-fascia.

Length to the tip of the hemelytra more than three-tenths of an inch.

A small species which I do not suppose to possess the power of yielding light. It inhabits the Arkansa near the Rocky Mountains.

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FLATA Fabr.

1. *F. BIVITTATA*.—Greenish-yellow; a lateral reddish-brown line confluent on the hemelytra; hemelytra vertical. [336]

Inhabits the United States.

Body pale green: head dusky, brownish before: eyes red: antennæ and stemmata yellowish-white; seta black: thorax and scutel glabrous, with a broad, lateral, dark reddish-brown vitta: hemelytra vertical, much dilated, pale greenish-yellow, paler towards the costal margin, inner margin dark reddish-brown: wings white: pectus and caudal segments whitish: feet, anterior pairs brownish: venter pale green.

Length three-tenths of an inch.

Found near Engineer Cantonment on the Missouri river; it also occurs in Pennsylvania; it is rather smaller than *F. relicta* Fabr., and the hemelytra are more dilated.

2. *F. STIGMATA*.—Black; wings white, with a black stigma and transverse spot at base.

Inhabits Missouri.

Body black: vertex triangular, distinguished by an elevated edge, and an abbreviated, carinate line: thorax acutely emarginate behind, and with an elevated edge and dorsal carina, carina abbreviated before, a squamula covering the origin of the hemelytra: scutel tricarinate, intermediate carina abbreviated behind: hemelytra white, a common black band near the base, becoming brown towards the suture, a black stigma, which is margined before with white: nervures with white and blackish alternate dots, the latter setigerous: tibiæ pale brownish. [337]

Length a quarter of an inch nearly.

Very numerous at Engineer Cantonment on the Missouri.

DELPHAX Fabr.

D. TRICARINATA.—Whitish; thorax yellowish; hemelytra with two oblique bands and spot; nervures spotted.

Inhabits Missouri.

Body whitish: head above, pale green: eyes deep brown, profoundly emarginate beneath: antennæ brown, longer than the head, second joint rather longer than the first: seta longer than 1825.]

the antennæ : front brown, deeply impressed with the grooves of the rostrum, presenting three prominent carinæ : rostrum with a fuscous band on the middle, and spot near the tip : thorax yellowish : hemelytra white, an obsolete band at base ; an oblique distinct one on the middle united to a curved one beyond the middle, which attains the tip and incloses a linear oblique spot near the tip of the costal margin : feet spotted with fuscous : abdomen pale yellowish : tergum blackish in the middle.

Length of the body and wings three-twentieths of an inch.

Came on board of our boat as we ascended the Missouri, in considerable numbers on the third of July. The hemelytral fascia, may, on many specimens, be traced into the form of the letter W, [338] the oblique spot being included between the posterior curve of the letter and the costal margin.

CERCOPIS Fabr.

1. *C. QUADRANGULARIS*.—Brownish-cinereous ; elytra with two oblique brown bands confluent at the outer margin : beneath black ; feet annulate with pale.

Inhabits Missouri.

Body brownish-cinereous, covered with dense, minute hairs : head obsoletely spotted : eyes fuscous, a pale longitudinal line on the middle, in which is a brown central line : stemmata indistinct, black : thorax emarginate at the anterior angles for the reception of the eyes, and deeply emarginate behind for the reception of the scutellum ; a double series of obsolete, indented spots before : scutellum, tip and basal angles acute : hemelytra pale brownish-cinereous ; an oblique black-brown fascia from the inner basal angle, is confluent at the middle of the exterior margin, with an oblique fascia which terminates near the sutural tip ; tip with a small blackish curve ; region of the humerus dusky ; beneath black : feet black : thighs annulate with pale ; posterior pair of tibiae pale, armed with two robust spines behind, and numerous small ones at tip ; posterior tarsi armed with spinules at the tips of the first and second joints beneath : abdomen black ; tail pale beneath. [339]

Length more than three-tenths of an inch.

2. *C. OBTUSA*.—Head and anterior part of the thorax pale,
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with three transverse lines: wings varied with brown and pale.

Inhabits the United States.

Body short, oval: head pale yellowish, an elevated, reddish-brown, transverse line between the eyes, and before the stemmata: front with about nine parallel, equidistant, reddish-brown lines which are interrupted in the middle, and abbreviated at the cavity of the antennæ: antennæ placed in a deep cavity, beyond which the seta only projects; head beneath black: thorax pale yellowish before, reddish-brown and rugose with continuous lines behind, anterior edge elevated, reddish-brown; a reddish-brown transverse band on the middle: scutel pale reddish-brown: hemelytra varied with fuscous and pale, generally forming a band on the middle, which is more distinct on the costal margin, spot at tip and larger one at base; nervures dark brown: feet black, joints whitish: tibia and tarsi whitish: posterior tibiæ bispinous behind, of which one is very robust.

Length rather more than one-fifth of an inch.

Female, colors generally paler, with the pectus and abdomen whitish.

Very common near Council Bluff, and is also found in Pennsylvania. The band of the hemelytra is sometimes indistinct or wanting, and there are three brown dots near the tip. [340]

TETTIGONIA Oliv. Lam. Latr.

1. T. 8-LINEATA.—Pale greenish-white, lineate with rosaceous; nervures of the hemelytra rosaceous.

Inhabits Missouri.

Body pale greenish-white: head quadrilineate with rosaceous, the two intermediate lines double before the stemmata, and with an obsolete spot behind them: stemmata rosaceous: eyes a darker red: thorax minutely rugulose transversely; six or eight rosaceous lines, the two lateral ones dilated, submarginal: scutel transversely rugulose, four rosaceous lines: hemelytra with the nervures and costal margin rosaceous; wings, nervures rosaceous; tibiæ rosaceous, spines of the posterior pair white.

Length rather more than seven-twentieths of an inch. A male.

Var. a. Rather larger; color pale greenish; those parts which are rosaceous in others, are yellowish in this variety.

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Near Engineer Cantonment on the Missouri.

T. LIMBATA.—Body deep black; side edged with white.

Inhabits Missouri.

Body deep black, punctured: a white lateral line from the eye to the tail: head before and beneath with minute white points: eyes whitish beneath: thorax with a transverse series of four [341] larger impressed punctures, the exterior ones with a rufous spot, and resembling stemmata; a white lateral line interrupted by a yellow spot over the interval between the two anterior pairs of feet: scutel impunctured, two rather large impressed dots, and a transverse impressed line on the middle; posterior portion transversely rugulose: hemelytra with large distinct, impressed punctures: wings whitish; nervures and base black: feet, spines of the posterior tibiæ not very prominent or rigid.

Length more than a quarter of an inch.

Near Engineer Cantonment on the Missouri.

3. T. MIXTA.—Dull blackish-brown; elytra with obsolete minute pale punctures; tergum deep black; feet annulate with pale spots.

Inhabits Missouri.

Head rugose, the lines somewhat longitudinal: stemmata rufous, placed on the anterior margin; first joint of the antennæ pale at tip: labrum irrorate with pale, and two larger spots at base: thorax transversely rugose and with an anterior series of punctures, lateral edge behind the eye white: hemelytra densely rugose, with a few pale, minute spots on the nervures, and rather larger ones on the inner and terminal margin; two abbreviated whitish lines on the humeral origin of the nervures; (when viewed towards the light, the whole wing is irrorate with pale hyaline points:) wings blackish, emarginate at tip; nervures fuscous: [342] tergum deep black, edge of the segments piceous: pectus deep black, segments generally edged with whitish: feet, anterior pairs annulate near the tip of the thighs with whitish spots; tibiæ with two or three whitish spots; posterior pair of feet paler beneath: venter irrorate with pale points, lateral segments with a longitudinal pale line on each, and pale inferior edge; caudal segment with large, dense, pale spots.

Length less than three-tenths of an inch.

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4. *T. OBLIQUA*.—Body yellowish-white, with two sanguineous lines, connivent upon the head and scutel; hemelytra white, with two sanguineous lines.

Inhabits the United States.

Body pale yellowish-white: head with two dilated sanguineous lines, connivent before: antennæ, seta as long as the head and thorax, dusky: thorax with two sanguineous lines: scutel with two lines and tip sanguineous: hemelytra whitish, an oblique line from the base slightly refracted on the thinner margin, and terminating behind the middle of the margin; an oblique longitudinal line on the disk, a more abbreviated, obsolete, subcostal line, and a costal line from the base to the middle of the edge, sanguineous: feet whitish: tail rosaceous.

Length rather more than one-tenth of an inch.

Found at Engineer Cantonment, and is also common in Pennsylvania. [343].

5. *T. COMES*.—Pale yellowish, with sanguineous spots.

Inhabits Missouri.

Body pale yellowish: head, a transverse sanguineous line, profoundly arcuated in the middle, and a smaller transverse spot before: eyes fuscous: thorax with three sanguineous spots, the lateral ones smaller, and the intermediate one arcuated: scutel, a sanguineous spot at tip: hemelytra yellowish-white, spotted with sanguineous; spots arranged two at base of which the outer one is small, and the inner one elongated and abruptly dilated on the inner side at tip; two upon the middle, of which the outer one is elongated in a very oblique line; two behind the middle, of which the inner one is obliquely elongated, and the outer one smaller, and interrupted; and a transverse linear one near the tip, ramose upon the nervures: feet whitish.

Length to the tip of the hemelytra, one-ninth of an inch.

The line and spot on the head and the spots of the thorax are sometimes obsolete, but always visible, and the latter are sometimes connected by curving towards the anterior edge of the thorax. The spots of the hemelytra are also sometimes slightly interrupted, or connected into four oblique bands.

6. *T. TRIFASCIATA*.—Pale yellowish-white; elytra [344] irrorate with reddish and somewhat trifasciate with dusky.

Inhabits Missouri.

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Body pale yellowish-white: head with two or three obsolete dull sanguineous spots on the vertex in the form of curves or circles: eyes dusky: thorax, a sanguineous line abbreviated before, and an obsolete curve at the anterior angle: hemelytra whitish, irrorate with sanguineous; a dilated, brownish, interrupted, subbasal band; an obsolete interrupted band behind the middle, upon the posterior costal termination of which is an abbreviated sanguineous line, and an oblique blackish band near the tip; a large quadrate white immaculate spot on the middle of the costal margin; humeral base white, immaculate: tergum dusky at base: feet white.

Length to the tip of the hemelytra one-eighth of an inch.

The spots of the head and thorax are sometimes hardly discernible, and the intermediate band is often so faint and interrupted as to be overlooked.

7. *T. BASILARIS*.—Pale yellowish, varied with sanguineous; elytra reddish-brown at base.

Inhabits Missouri.

Body pale yellowish: head obsoletely varied with sanguineous: eyes dusky or black: thorax dusky behind: anterior margin with four or five obsolete sanguineous spots: scutellus dusky reddish-brown or sanguineous at tip: hemelytra with a broad band of reddish-brown at base; a spot on the middle of the thinner margin, then an oblique line, and another oblique line towards the tip, sanguineous; at the inner extremity of the latter is a very minute black point.

Length to the tip of the hemelytra, one-ninth of an inch.

[From Jour. Acad. Nat. Sci., Philadelphia, Vol. 5, 1825, pp. 32—47.]

Descriptions of New Species of **HISTER** and **HOLELEPTA**, inhabiting the United States.

Read May 10, 1825.

HISTER.

Family 1.—Head with a transverse stria; thorax with one or two striae; tibiae dentated.

A. Thorax with two lateral striae, entire or one abbreviated.

† Elytra with the marginal stria.

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1. *H. MEMNONIUS*.—Inner thoracic stria abbreviated a little beyond the middle; elytra, each with a basal puncture.

Body black, somewhat polished: head slightly convex, arcuated line very distinct: mandibles a little prominent: antennæ dull piceous: thorax with the inner stria abbreviated at about two-thirds the length of the thorax, a very short impressed line on the middle of the base: elytra with the marginal and four dorsal striæ entire; the fourth hardly reaching the base; fifth less than half the length of the elytrum; sutural stria more than half the length of the elytrum; an obvious impressed puncture at base equidistant from the fourth stria and the scutel: feet piceous: anterior tibiæ quadridentate.

Length nearly one-fifth of an inch.

I received this species from Dr. J. F. Melsheimer, under the name I have adopted. The punctures of [33] the elytra are much nearer to the base than those of the *senegalensis* as represented by Paykull.

[Evidently a distorted specimen of *H. immunis* Er., with the posterior part of the inner thoracic stria deficient. I formerly considered it as *H. interruptus* Beauv., (*obtusatus* Harris,) but that species is much too large.—LEC.]

2. *H. DEPURATOR*.—Inner thoracic stria longer; elytra, marginal stria obsolete; dorsal striæ three.

H. unicolor Melsh. Catal.

Body black, polished; head slightly convex, arcuated line very distinct: mandibles a little prominent: antennæ piceous: thorax with the exterior stria a little shorter than the inner one, which extends to the basal margin: elytra, marginal stria obsolete, consisting only of a series of punctures which extend no further than the middle; dorsal striæ three, entire; fourth stria consisting of from nine to twelve impressed points, not extending beyond the middle; fifth stria very short, obsolete, and consisting of two or three impressed points; sutural stria abbreviated at the middle, generally interrupted at the posterior tip into a short series of punctures: anterior tibiæ tridentate; terminal tooth slightly emarginate; superior tooth often obsolete.

Length rather more than one-fourth of an inch.

Var. a. Marginal line obsoletely continued by the humerus in punctures.

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Var. b. Ferruginous.

Altogether distinct from the *unicolor* of Fabr., which has the exterior marginal and abbreviated striae very distinct, and the anterior tibiae six toothed. Dr. J. F. Melsheimer has given it the name which I adopt. It is a very common species, inhabiting throughout the Union. I obtained a specimen [34] in Arkansa. It differs from *H. thoracicus* Payk., by having the sutural stria.

3. *H. ARCUATUS*.—Elytra with a large rufous lunate vitta; anterior tibia with two entire teeth.

Body black, polished: head with the transverse line very distinct: antennae tipped with fulvous: thorax ciliated each side with yellowish hairs; striae entire, reaching the base and not undulated near the tip: elytra with a broad rufous vitta, commencing at the middle of the base, where it is dilated, and curving, so as to reach the sutural stria near the tip; marginal stria very distinct, entire; three dorsal striae entire; fourth and fifth abbreviated, not reaching the middle; sutural striae extending rather beyond the middle; a slight transverse indentation near the tip: thighs bright rufous: anterior tibiae with two very prominent entire teeth.

Length one-fourth of an inch.

Var. a. Transverse line of the head not very obvious; fifth stria of the elytra obsolete.

This species is rather rare. In its general appearance as respects color, it resembles the *sinuatus* Panz., which, however, is destitute of the marginal stria. The variety occurred in Arkansa.

4. *H. BIFIDUS*.—Thoracic striae entire; marginal and four dorsal striae entire; an oblique abbreviated stria at base.

Body black, immaculate: head with the transverse line very distinct; an obsolete, longitudinal line visible in a particular incidence of light: antennae with [35] the tip of the clavum pale: thorax, striae entire, not approaching at tip: elytra, marginal stria entire, near the base exterior to the humerus, bifid and divaricated; an abbreviated, very oblique stria from the humeral angle, inwards towards the first dorsal stria; dorsal striae four, entire; fifth not reaching the middle; sutural stria extending beyond the middle; an abbreviated, very oblique stria at base, being the origin of the very widely interrupted fifth stria: ante-

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rior tarsi three toothed, the intermediate tooth largest, three smaller teeth above.

Length less than one-fifth of an inch.

From the character of the fifth stria this species might be mistaken for the *interruptus* of Beauvois, but it is a much smaller insect, and the *interruptus* has two abbreviated striæ at the base of the elytra.

It is an inhabitant of Missouri; I obtained two specimens when with Major Long's party in that region.

††. Elytra destitute of the marginal striæ.

5. H. INDISTINCTUS.—Thoracic striæ entire; dorsal striæ four, entire; fifth stria abbreviated, obsolete; sutural stria slight.

Body black, immaculate: head with the transverse line very distinct: thorax with an indentation on the middle of the posterior submargin; lateral striæ entire and not approaching at their tips: elytra with four entire dorsal striæ; fifth abbreviated, more or less obsolete, generally consisting of five or six punctures; sutural stria not deeply impressed, extending [36] rather beyond the middle, and not reaching the tip: anterior tibiæ tridentate, terminal tooth largest, emarginate.

Length less than one-fifth of an inch.

B. Thoracic stria single.

6. H. SEDECIMSTRIATUS.—Dorsal striæ entire; fifth connected to the sutural at base.

Body black, immaculate: head with the transverse line distinct: antennæ ferruginous, paler at tip: thorax with the stria entire and well impressed: elytra with the dorsal and sutural striæ entire, the latter uninterruptedly connected with the fifth at base: marginal striæ two, exterior one entire, inner one abbreviated at the termination of the small oblique line; terminal margin with small profound punctures: feet piceous: anterior tibiæ tridentate.

Length more than three-twentieths of an inch.

This species is not uncommon, and seems to extend to many remote parts of the Union, as I obtained a specimen in Missouri. The fifth and sutural striæ of the elytra unite at base as obviously as those of the *12-striatus* of Europe and Africa; it is, therefore, somewhat similar to the *americanus* of Paykull, which, however, differs by being altogether destitute of the marginal striæ of the 1825.]

elytra, and by having two thoracic stræ, though one of them is much abbreviated. It may be useful to state in this place, that Paykull has represented his *americanus* as having the sutural stria widely interrupted at base from the basal termination of the fifth stria; in this character [37] he is, perhaps, correct, as respects a few specimens, but in most individuals the connection can be traced, with the exception of a very short interval of obsolete interruption.

7. *H. OBLIQUUS*.—Elytra with an oblique rufous spot at tip; lateral thoracic stria interrupted from the anterior one.

Body black: head with the transverse line angulated in the middle: antennæ rufous: thorax, an orbicular indentation at the angle formed by the anterior and lateral stria, which do not join: elytra with a large oblique spot on the exterior tip, extending from the sutural angle to the humerus, where it is obsolete; four dorsal stria, entire; fifth somewhat abbreviated, being obviously shorter than the others; sutural stria extending to the middle: feet with a large, prominent, slightly emarginate tooth at tip, and three smaller ones.

Length more than three-twentieths of an inch.

This is so much like the *bimaculatus* Linn., of Europe, that I have long hesitated to describe it, being inclined to consider it a mere variety of that species. Paykull represents the frontal stria of the *bimaculatus* of the usual form, excepting that it is more obtuse than others, whereas that of our insect is precisely similar to the same part of the *senegalensis* Payk., this character, for which I rely on the accuracy of Paykull, combined with those of the interrupted thoracic stria, and the somewhat abbreviated fifth dorsal stria, justify the separation of this insect as an independent species. [38]

[Does not differ from the European species mentioned.—LEC.]

Family 2.—Frontal stria obsolete or none; lateral thoracic stria none; elytra with entire stria; anterior tibia entire.

8. *H. NIGRELLUS*.—Stria of the elytra equidistant, equal, rectilinear; front convex.

H. flavicornis Melsh. Catal.

Body oval, black: front convex, more prominent in the middle, a slight angle over the insertion of the antennæ: antennæ piceous,

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clavum oval, pale fulvous: thorax densely and equally punctured: elytra with all the striæ rectilinear, entire and equidistant, excepting the marginal one, which is very obsolete, hardly perceptible and generally abbreviated: stria on the lateral edge of the superior surface as distinct as the dorsal ones: feet piceous: anterior tibiæ ciliated with short spines.

Length one-tenth of an inch.

Var. a. Body piceous.

This species is altogether different from the *flavicornis* Herbst, in which are but three abbreviated striæ at the base of the elytra. I therefore adopt a name given by Dr. J. F. Melsheimer. It is certainly very closely allied to the *fulvicornis* Fabr., and may possibly prove to be a variety of that insect.

[Belongs to *Epierus*.—LEC.]

9. H. CONJUNCTUS.—Fifth dorsal stria abbreviated; fourth united with the sutural stria at base.

Body oval, black: head minutely punctured, slightly concave before, and somewhat angulated over the insertion of the antennæ: antennæ and mandibles piceous, the former with a dull fulvous capitulum: [39] thorax more obviously punctured each side: elytra piceous at the terminal margin; marginal stria obsolete, more distinct behind; four dorsal striæ entire, and fourth very obtusely incurved at base, so as almost to join the sutural stria; fifth stria abbreviated, extending a little beyond the middle: anterior tibiæ narrower at tip, and very obtusely and slightly crenate on the edge.

Length rather less than one-tenth of an inch.

A very distinct species, remarkable for the connexion of the fourth and sutural striæ.

[Belongs to *Carcinops* Marseul, which does not appear to be sufficiently distinct from *Paromalus*.—LEC.]

10. H. SUBROTUNDUS.—Front concave; elytra with the sutural stria abbreviated.

H. subrotundus Melsh. Catal.

Body rounded, black: front concave, transverse line obsolete: mandibles piceous: thorax more obviously punctured on the sides: elytra each side and at tip rufo-piceous; marginal stria hardly reaching the middle; five dorsal striæ entire; sutural

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stria abbreviated beyond the middle; terminal submargin transversely indented: beneath blackish-piceous: feet rufo-piceous: anterior tibiæ not wider at tip than in the middle, ciliated with distant spines.

Length much less than one-tenth of an inch.

Var. a. Fifth dorsal stria abbreviated, (rare.)

Var. b. Entirely black.

This seems to be closely allied to the *trogodytes* Payk. of the East Indies; but in that species the form is more oval, and the anterior tibiæ are bidentated. It is a common species and varies in size. [40]

[Belongs to *Phelister* Marseul.—LEC.]

11. H. VERNUS.—Front concave; elytra with two abbreviated striæ.

Body black: head minutely punctured: front concave: antennæ with the capitulum piceous: mandibles dark piceous: thorax with rather large, distant punctures each side; a much abbreviated impressed line on the posterior margin: elytra with the marginal striæ abbreviated, not extending beyond the middle; dorsal striæ four, entire, well impressed; fifth and sutural striæ abbreviated rather before the middle: feet piceous: anterior tarsi crenate, with three larger, subequal, spinous teeth.

Length one-tenth of an inch.

[Also a *Phelister*.—LEC.]

Family 3.—Front convex, punctured; thorax without striæ, punctured each side; elytra striate and punctured.

[The species of this division belong to *Saprinus*.—LEC.]

12. H. FRATERNUS.—A transverse impunctured space on the thorax, and a common one on the elytra; first dorsal stria reaching the tip; head with impressed lines.

Body brassy-black: head somewhat rugous before: antennæ with a dull rufous capitulum: thorax densely punctured, excepting a transverse space behind the middle: elytra densely punctured, excepting an oval, common space near the base and the lateral margin; marginal striæ obvious, not reaching the humerus; first dorsal slightly undulated near the base, entire, much incurved behind the middle; second, third, fourth, and sutural striæ abbreviated at the middle, the two latter connected at base:

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beneath black : feet [41] piceous-black : anterior tarsi quadridentate, penultimate tooth largest, and two or three smaller ones at base.

Length rather more than three-twentieths of an inch.

Var. a. Cupreous dull.

Length less than three-twentieths of an inch.

Inhabits Missouri.

Very closely allied to *4-striatus* Payk. of Europe, but the impunctured space of the thorax is much smaller, and that of the elytra is shorter, transversely oval. Not uncommon. It occurs numerously on the sea beach under Fuci, and other decaying vegetable and animal substances. I obtained a specimen also in East Florida.

13. *H. MANCUS*.—Thoracic punctures smaller on the disk ; a common space on the elytra, impunctured ; dorsal striæ all abbreviated ; head without impressed lines.

Body black : head punctured, compressed before and destitute of rugæ : thorax densely punctured ; punctures smaller on the disk, and particularly behind the middle : elytra densely punctured, transverse common space near the base, and humerus impunctured ; marginal stria entire ; dorsal striæ abbreviated rather behind the middle ; fourth and sutural striæ connected at base : feet piceous-black : anterior tibiæ not dentated, but with remote short thick spines.

Length rather less than three-twentieths of an inch.

I obtained it in the North-west Territory during Major Long's second expedition. It resembles the [42] preceding, but the abbreviated first dorsal stria, and the anterior tarsi, amply distinguish it.

14. *H. PALMATUS*.—Thorax, excepting on the posterior margin, impunctured ; anterior tibiæ profoundly dentated.

Body black : head with a transverse line and longitudinal bifarious one : antennæ, small joints rufous : thorax without any appearance of punctures, except on the narrow basal margin, where they are rather large : elytra punctured on the terminal half, but not exterior to the line of the third stria ; marginal stria abbreviated ; four dorsal striæ abbreviated, the fourth united to the

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sutural stria at base : feet blackish-piceous : anterior tibiæ with two or three prominent teeth, and four or five smaller ones.

Length less than one-fifth of an inch.

Family 4.—Body oblong or elongated, flattened ; clypeus concave ; thorax marginated, punctured each side ; elytra striated ; anterior tarsi denticulated ; posterior pairs with but a single series of spines.

[The two species of this division are of the genus *Platysoma*.—Lec.]

15. *H. PARALLELUS*.—Elytra with entire striæ ; anterior tarsi quadridentate ; frontal line distinct.

Body somewhat elongated, a little depressed, black : head punctured, with a distinct transverse, impressed line, anterior to which the surface is a little concave : antennæ pale rufous : mandibles piceous ; thorax punctured, those of the disk a little smaller : elytra slightly punctured each side and at tip ; all the striæ entire : beneath piceous-black : feet pale piceous : [43] anterior tarsi four-toothed, two terminal teeth nearly equal.

Length from more than one-tenth to less than three-twentieths of an inch.

Var. a. Sutural stria obsolete at base.

Rather common. I have also found it in East Florida.

16. *H. FRONTALIS*.—Head a little depressed ; nasus very short, transverse line indistinct ; elytra with entire striæ.

Body oblong, somewhat depressed, black : head depressed, the clypeus terminating before in a rather prominent line between the antennæ ; transverse line obsolete ; nasus very short, transverse, linear, not concave : labrum and mandibles piceous : antennæ piceous, with a yellow capitulum : thorax subequally punctured : elytra slightly punctured on the lateral margin and tip ; striæ entire ; fifth obsolete at base, or continued only by punctures : anterior tarsi with four small teeth.

Length less than one-tenth of an inch.

Very similar to the preceding, but much smaller, and distinguished by the peculiar form of that part of the head to which the labrum is attached ; this part is transverse linear. I obtained a specimen on the eastern shore of Virginia.

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Family 5.—Body flattened, oval; intermediate and posterior pairs of tibia with but a single series of spines. [44]

17. *H. SORDIDUS*.—Thorax impunctured; marginal striæ of the elytra none; inner striæ abbreviated.

Body polished: head concave in front; transverse line very obvious: thorax impunctured, marginal line single: elytra destitute of a marginal line; first, second, and third striæ entire; fourth, fifth, and sutural striæ anteriorly abbreviated at the middle, subequal; the sutural one often rather longest: anterior and intermediate pairs of tibiæ five-toothed, of which the superior tooth is very small, and with the appearance of a still smaller one above: posterior tibiæ with several spines.

Length less than three-twentieths of an inch.

This is very similar to *H. depressus* of Europe, but there is no appearance of punctures on the thorax.

[This is *H. carolinus* Payk., and belongs to *Platysoma*.—LEC.]

18. *H. ÆQUALIS*.—Elytra destitute of obvious striæ, minutely punctured.

Hister æqualis Melsh. Catal.

Body much flattened, black: head slightly convex, very minutely punctured; transverse line marginal, much arcuated: antennæ, capitulum rufous: thorax with very minute lateral punctures, lateral line narrow: elytra punctured, punctures small, numerous; a very slight appearance of a marginal stria, and of one or two oblique abbreviated ones at base: anterior tibiæ somewhat dilated, teeth four, obsolete; posterior tibiæ unarmed.

Length three-twentieths of an inch.

To the unassisted eye, the elytra appear perfectly smooth, and it is only on a close examination, aided [45] by a particular incidence of light, that the striæ we have described are at all visible. In some specimens, the anterior tibiæ are hardly crenate, in others they appear armed with four very short spine-like teeth.

[A species of *Paromalus*.—LEC.]

Family 6.—Punctured, convex; sutural striæ none.

19. *H. PUNCTULATUS*.—Dorsal striæ four, the inner ones abbreviated near the tip.

Hister punctulatus Melsh. Catal.

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Body rounded, subovate, black : head with small numerous punctures : antennæ piceous, capitulum pale fulvous : thorax with small numerous punctures, less distinct on the disk : elytra irregularly punctured ; first and second dorsal striæ entire, well impressed ; third and fourth striæ less deeply impressed, extending from the base to near the tip, where they are abbreviated, the latter shorter : feet piceous : tibiæ dilated in the middle,

Length nearly three-twentieths of an inch.

Allied to the *punctatus* Payk., but sufficiently distinct. Rare.

[Belongs to *Dendrophilus*.—LEC.]

20. H. TRANSVERSUS.—Thorax with two grooves and a transverse impressed line.

Body oblong, brownish-black, with large numerous punctures ; head somewhat concave above the antennæ, and before the antennæ elongated : thorax with a large deep groove on each side, and a transverse, impressed, very distinct line rather before the middle : elytra with large, dense, longitudinal punctures, [46] giving a somewhat rugose appearance to the surface.

Length rather more than one-twentieth of an inch.

About equal in size to the *cæsus* Fabr., of Europe, to which it is very closely allied.

[Belongs to *Plegaderus*.—LEC.]

Family 7.—With elevated lines.

21. H. ALTERNATUS.—Thorax with six elevated lines ; lines of the elytra with intervening smaller ones.

Hister sulcatus Melsh. Catal.

Body oval-orbicular, convex, brownish-black : thorax with six prominent lines, the two middle approximate on the anterior margin ; the exterior line abbreviated before ; lateral edges prominent ; intervening grooves punctured : elytra with about four elevated lines, and a common one ; intervening spaces with smaller elevated lines : anal segment with three elevated lines : beneath with large punctures : feet piceous.

Length less than one-tenth of an inch.

Certainly not the *sulcatus* Fabr., to which, however, it is somewhat similar as regards the sculpture of the elytra, but in the position and number of the thoracic lines it is somewhat like the *striatus* Fabr. Rare. It belongs to the genus *Onthophilus* of Leach.

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HOLOLEPTA.

1. *H. ÆQUALIS*.—Polished; mandibles as long as the head, simple.

Body polished, suboval: head with an obtuse spine above each antennæ: antennæ dark ferruginous: mandibles simple, as long as the head: elytra obliquely truncated at tip, sutural shorter than the external edge; three much abbreviated striæ at base, the inner one indistinct, marginal striæ very obvious: anterior tibia three-toothed, the anterior one dilated and emarginate.

Length two-fifths of an inch, nearly.

Common under bark of decaying trees. I formerly considered it identical with the *4-dentatus* Fabr., of South America, but on comparison, I agree with Dejean that it is a new species.

2. *H. FOSSULARIS*.—Anterior angles of the thorax with an excavated spot.

Body highly polished, suboval: head with an obtuse spine above each antennæ: antennæ dark ferruginous: mandibles simple, rather longer than the head: thorax with a profoundly impressed, longitudinally-oval spot on each anterior angle: elytra obliquely truncated at tip, the sutural shorter than the external edge, three much abbreviated striæ at base, the inner one obsolete; marginal striæ very obvious: anterior tibia three-toothed, the anterior tooth dilated and emarginate.

Size of the preceding, which it very much resembles, and of which it may possibly prove to be the male.

[From Journal of the Academy of Natural Sciences, vol. 5, December, 1825, pp. 160—202.]

Descriptions of new species of Coleopterous Insects inhabiting the United States.

Read January 18, 1825.

DYTISCUS Linn. Latr.

1. *D. LIBERUS*.—Thorax obscure rufous; elytra brownish, glabrous, with three obsolete series of punctures.

Body impunctured, glabrous, oval: head very obscure rufous; antennæ and palpi pale: thorax obscure rufous, somewhat pice-1825.]

ous, varied with dusky: scutel piceous: elytra dull testaceous, but having a fuscous appearance in consequence of very numerous, minute, blackish, confluent points; a narrow dull testaceous exterior margin, in which the blackish points are less numerous; three series of distant obsolete punctures: beneath piceous: venter varied with dull testaceous, and with about four spots of the same color on each lateral margin.

Length less than one-half an inch.

I have never found this insect in Pennsylvania. I purchased several specimens, with a collection of insects, several years ago in New York, of which State it is therefore probably a native. The elytra of the female are not sulcated, but are precisely similar to those of the male.

I have recently received specimens from Dr. Harris, of Massachusetts, who obtained them in that State.

[A species of *Hydaticas*, subsequently described as; *D. thoracicus* Harris, *Colymbetes nigricollis* Kirby; *H. brunnipennis* Aubé.—LEC.] [161]

CYPHON Fabr. Dej.

1. C. DISCOID[E]US.—Testaceous; elytra with a common black disk.

Inhabits Arkansa.

Body oval, pale testaceous, with short yellowish hair: head and thorax impunctured: eyes fuscous: scutel triangular, with a slightly depressed margin: elytra with a large common black disk; numerous small punctures furnishing hairs: wings black.

Length one-fifth of an inch.

Taken on the banks of the river Arkansa by Mr. Thomas Nuttall.

2. C. OVALIS.—Blackish, or yellowish-brown, pubescent; thorax narrow, transverse.

Body rather short, oval, considerably depressed, blackish or yellowish-brown; with short, numerous hairs; antennæ and palpi pale yellowish-brown: thorax transverse, narrow, not rounded on the anterior edge; punctures more distinct each side: elytra with numerous impressed punctures gradually becoming obsolete behind: feet pale yellowish-brown.

Length one-tenth of an inch.

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More rounded and less sericeous than *C. griseus* Fab., and somewhat larger than *C. padi* Gyl.

LAMPYRIS Linn. Latr.

1. *L. RUFICOLLIS*.—Blackish; antennæ and thorax rufous.

Lampyrus ruficollis Melsh. Catal. [162]

Head black, polished, with short hairs; eyes rather small, prominent; antennæ and palpi dull rufous: thorax transversely oblong-quadrate, with short hairs, polished; anterior angles rounded; anterior margin not extended over the head; rufous, a little dusky before the middle: elytra blackish, with numerous punctures furnishing short hairs: pectus rufous on the lateral margin: tibia obscure rufous.

Length three-twentieths of an inch.

The smallest North American species I have seen, and very distinct by its characters from any of them. It does not appear to be endowed with the power of yielding light.

[Belongs to *Helodes* Latr., (*Cyphon* Fabr.) and subsequently described as *H. marginicollis* Guérin, and *H. fragilis* Zeigler; it varies in having sometimes a black dorsal thoracic spot.—LEC.]

2. *L. ANGULATA*.—Blackish-brown; thorax yellowish, with a vitta and lateral margin, black; elytra margined with yellowish.

Lampyrus marginata Melsh. Catal.

Body dilated: head dull rosaceous, with an obscure frontal spot and vertex, blackish; antennæ simple, blackish, basal joint pale; palpi blackish: thorax obtusely somewhat angulated before; a dilated black vitta attenuated before, on each side of which towards the base is a large pale rosaceous space, and towards the tip each side a dull yellowish one; lateral margin blackish; a longitudinal elevated line; lateral margin a little excurved near the posterior angles; posterior edge arcuated each side: scutellum black: elytra with a broad outer margin and narrow sutural margin and tip, yellowish: abdomen, terminal segments bright yellow. [163]

Length two-fifths of an inch.

In general form, and color of the thorax, it resembles the *corrusca* Linn., which, however, is destitute of colored margins to the elytra, and its thorax is rounded before; it is very different. 1825.]

ent from the *marginata* Linn., by its much more dilated form. I have one specimen which is three-fifths of an inch in length.

[Belongs to *Photinus* as enlarged by Lacordaire, Gen. Col. 4, 321.—LEC.]

3. *L. CENTRATA*.—Thorax rosaceous, with a black centre; elytra margined with yellowish.

Lampyris limbata, Melsh. Catal.

Body oblong; head blackish; mouth dull rufous; antennæ simple, compressed and with the palpi, black: thorax rounded before, destitute of a carinated line; a black vitta, each side of which is a large rosaceous spot; lateral margin not excurved towards the posterior angles, yellowish; anterior margin dull testaceous yellow; posterior edge rectilinear: elytra brownish-black, a narrow exterior, sutural and terminal margin, yellowish: abdomen, terminal segments bright yellow.

Length from two-fifths to nine-twentieths of an inch.

Var. a. Thoracic vitta abbreviated.

Very similar in its markings to the preceding, but is less dilated, the thorax is rounded before, with its posterior edge rectilinear, and the lateral margin is not blackish, &c.

[Also a *Photinus*, but previously described as *L. pyralis* Linn. and *L. rosata* Germ.—LEC.]

5. *L. RETICULATA*.—Elytra dusky, with longitudinal elevated lines, and transverse ones in the interstitial spaces.

Body rather slender: head yellowish; eyes black: [164] thorax wider than long, accurately rounded before; depressed margin wide at the posterior angles; pale yellowish, blackish on the disk; lateral and anterior margins a little recurved: elytra fuscous, with longitudinal elevated lines, and intermediate, transverse, somewhat irregular ones: pectus pale yellow each side: postpectus and feet pale yellow.

Length less than one-fifth of an inch.

A single specimen was brought from Arkansa by Mr. Thomas Nuttall. It may be readily distinguished from the other species of the United States by its reticulated elytra, and slender form.

[Constitutes the genus *Phausis* Lec.; the antennæ have 12 joints, the last being very small and subulate.—LEC.]

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5. *L. SCINCTILLANS*.—Light brown; thorax rosaceous, with a yellowish margin and central black spot; elytra with a yellowish margin.

Lampyris pyralis, Melsh. Catal.

Body oblong: head blackish, more or less tinged with rufous; mouth paler; antennæ brown: thorax regularly arcuated before and on each side; bright rosaceous, with a black central spot and impressed line; anterior and lateral margins pale yellowish; posterior edge very slightly arcuated, which extends equally from one angle to the other: elytra pale brown, with a narrow exterior, sutural and terminal margin.

Length nearly three-tenths of an inch.

This is our very abundant "Fire-fly," and is familiar to every inhabitant of this country. It is very like the *centrata* nob., but is much smaller and of a much paler color. With the late Mr. Melsheimer, I have always hitherto considered this species to be the [165] *pyralis* of authors; but on a careful comparison with their descriptions, and particularly that of Olivier and his figure, I have, after much hesitation, concluded that it is distinct from that species. The *pyralis* is described to be equal in size to the *splendidula* and *noctiluca*, but our species is smaller; my chief reliance, however, is on the figure given by Olivier, which is beyond all doubt that of a widely different species from the present.

The female differs from the male in having the elytra imperfect, being not more than one-third the length of the abdomen; they are, however, margined like those of the male.

[Belongs to *Photinus*.—LEC.]

CANTHARIS Fabr. Dej.

1. *C. TOMENTOSA*.—Rufous; elytra blackish, covered with short hairs; thorax truncated before.

Cantharis tomentosa Melsh. Catal.

Head prominent, somewhat elongated and attenuated behind the eyes, glabrous, rufous: antennæ dusky, pale rufous at base, second and third joints equal: thorax rufous, subglabrous, with very minute hairs, polished; lateral margins narrow, more depressed behind; anterior margin truncated; a longitudinal acute impressed line; 1825.]

scutel pale rufous : elytra blackish, with dense minute hairs, and close set small punctures : postpectus dark plumbeous, sericeous, with very short prostrate hairs : feet pale rufous ; tibiæ dusky, the anterior pair somewhat arcuated, so as to have the appearance of being a little dilated [166] on the inner side towards the tip : abdomen dark plumbeous on the disk, lateral margins and tip pale rufous.

Length nine-twentieths of an inch.

A species of *Podabrus* subsequently described as *P. rufiolus* Mels.—LEC.]

2. *C. ROTUNDICOLLIS*.—Pale rufous ; elytra plumbeous, sericeous ; thorax rounded before.

Head rounded, sericeous on the front, towards the tip a little varied with black ; antennæ hardly darker than the head, third joint longer than the second, but not twice as long ; mandibles black at tip and on the inner margin : thorax pale rufous, polished, with short hairs, somewhat unequal ; lateral margins nearly obsolete behind, depressed before ; posterior margin abruptly depressed ; anterior margin regularly rounded, lateral angles none : scutel pale rufous : elytra plumbeous and decidedly sericeous, varying with the incidence of the light : beneath pale rufous, sericeous : anterior tibiæ simple.

Length nearly three-fifths of an inch.

The colors of this species, as well as their distribution, are so very similar to those of the preceding, that it might be easily mistaken for the same, but it differs in the anterior rotundity of the thorax and the simplicity of the anterior tibiæ.

3. *C. LIGATA*.—Pale ochreous ; head with two lines and thorax with a vitta, black.

Body pale ochreous : head with two very obvious black lines, proceeding from the base of the antennæ and converging a little to the neck ; antennæ black, second joint very small, half the length of the third, [167] which is not more than two-thirds the length of the fourth ; mouth prominent, with a black line each side above ; palpi long, terminal joint but little dilated : thorax quadrate, not transverse ; lateral edges rectilinear ; angles rounded, posterior ones more acutely so ; a broad black vitta, which, however, does not affect the anterior and posterior raised

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edges : elytra immaculate : wings black : tibiæ and tarsi black, nails simple.

Length more than two-fifths of an inch.

The form of the palpi prove this species to be closely related to *Malthinus*. I found the specimen near the cantonment of Major Long's exploring party on the Missouri river.

[This is a variety of *Chauliognathus marginatus* with immaculate elytra.—LEC.]

4. *C. JACTATA*.—Pale ochreous; thorax with an impressed line, dull rufous, yellowish each side.

Body pale ochreous; head yellowish before, above the antennæ black, polished; antennæ black beneath, and basal joint rufous; second joint half as long as the third, which is equal to the fourth: thorax transverse, rounded before; posterior angles acute; yellowish each side, on the disk rufous with a blackish line, and with an indented line extending from the middle to the posterior raised edge: elytra immaculate: postpectus blackish on each side: tibiæ and tarsi black above, nails with a prominent tooth: venter blackish in the middle.

Length more than two-fifths of an inch.

I found this species when with Major Long's party, near the Rocky Mountains.

[Unknown to me.—LEC.]

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5. *C. PARALLELA*.—Black; thorax yellow, with a black vitta.

Head black; mandibles honey-yellow; antennæ with the first joint yellowish beneath, second joint half the length of the third, which is equal to the fourth: thorax yellow, with a slight tinge of rufous, with a black equal vitta, which occupies not more than one-fourth or one-fifth of the surface; anterior portion rather narrower than the posterior margin; angles rounded: elytra black: beneath black: pectus yellow: nails armed with a tooth.

Length more than one-fourth of an inch.

This species was labelled in my cabinet with the name of *lineola*, but that name is pre-occupied. The black line of the thorax is well defined, and its sides are parallel. Occurs in June.

[This is *C. lineola* Fabr.—LEC.]

1825.]

6. *C. LATICORNIS*.—Black; thorax with the lateral margin yellow; antennæ serrate.

Body black; head somewhat yellowish before; antennæ a little dilated and serrate on the inner side; second joint very small, less than one-third the length of the third joint, which is equal to the fourth: thorax a little narrower before, lateral narrow margins honey-yellow; middle of the lateral edge contracted; posterior angles subacute: pectus yellowish: nails simple, posterior pair with a slight tooth.

Length nearly three-tenths of an inch.

[Belongs to *Polemius* Lec., Proc. Acad. Nat. Sc. Phila. 5, 339; *Telephorus dubius* Mels. is synonymous.—LEC.]

6. *C. SCITULA*.—Dusky; thorax, margin of the elytra and feet yellow.

Head black, anterior half yellowish; antennæ with [169] the two basal joints beneath yellowish, second joint rather large, two-thirds the length of the third joint, which is equal to the fourth: thorax yellow, immaculate; anterior angles obtusely rounded, posterior angles acutely rounded; elytra dusky, with a pale yellowish margin, the sutural margin very broad, near the scutellum occupying nearly half the width of the elytrum: beneath pale yellowish; postpectus and venter varied with dusky: nails armed with a tooth.

Length more than one-fifth of an inch.

[Subsequently described by me, Agassiz, Lake Sup., 230, as *Telephorus nigriceps*.—LEC.]

8. *C. ? BIDENTATA*.—Thorax bidentate, yellow; antennæ serrate.

Body black: antennæ dilated, joints short, serrate; second joint very small, not dilated, half as long as the third, which is equal to the fourth: thorax yellow; near the posterior angle on each side are two prominent, approximate, parallel teeth.

Length more than three-twentieths of an inch.

[Belongs to *Silis*.—LEC.]

MALACHIUS Fabr.

1. *M. FLAVILABRIS*.—Purplish-black ; head at tip yellow.

Body black, with a slight tinge of purplish, particularly on the elytra : head polished deep black between and above the eyes, anterior to which it is bright yellow ; antennæ beneath one half the length yellow : anterior pairs of feet yellow, coxæ and thighs with a dilated black line ; posterior feet dusky.

Length to the tip of the elytra more than one-tenth of an inch.

[Belongs to *Anthocomus* ; subsequently described as *M. cœruleus* Randall.—LEC.] [170]

2. *M. PUSILLUS*.—Purplish-black ; feet, excepting the posterior tibiæ, yellow.

Head polished, black ; antennæ at base yellow ; mandibles yellow, piceous at tip : anterior pairs of feet, excepting the patella, yellow ; posterior pair yellow, tibiæ and line on the thighs, black.

Length more than one-twentieth of an inch.

I received the two insects above described from Dr. J. F. Melsheimer, under the names I have given to them.

[Belongs to *Ebæus*.—LEC.]

3. *M. SCINCETUS*.—Pale yellowish ; thoracic disk black.

Head yellow, black at base : thorax deep black on the disk, each side and basal edge yellow : scutel black ; elytra pale yellowish, suture excepting towards the tip blackish : pectus yellow, with a blackish spot each side ; postpectus yellow ; lateral and posterior margins black : abdomen black, incisures and lateral edge yellow.

Length one-tenth of an inch.

A common species, remarkable for its pale color.

[A species of *Anthocomus*.—LEC.]

4. *M. APICALIS*.—Black ; thorax sanguineous ; feet and tip of the elytra whitish.

Head black, polished ; antennæ yellowish : thorax sanguineous, dusky on the anterior margin : elytra black, polished ; a large, rounded, whitish, somewhat hyaline spot occupying the tip : feet and posterior part of the venter pale yellow or whitish.

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Length less than one-tenth of an inch.

I obtained this species when with Major Long's party in Missouri.

[Belongs to *Ebæus*.—LEC.]

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5. *M. TERMINALIS*.—Blackish; terminal margin of the elytra pale testaceous.

Body black, polished, somewhat hairy; antennæ at base, clypeus on its anterior margin and labrum dull rufous: elytra with the apical margin only pale testaceous: anterior thighs beneath, piceous: abdomen with the segments margined with pale testaceous.

Length less than one-tenth of an inch: of a more robust form than the preceding insect.

[An *Anthocomus*.—LEC.]

XYLETINUS Latr.

X. SERICEUS.—Brown; thorax indented each side behind; elytra striate.

Anobium sericeum Melsh. Catal.

Body cylindrical, with minute prostrate hairs: head granulated; antennæ rufous; mouth with golden yellow hair: thorax granulated; an obvious longitudinal impressed line, terminating behind in a short carina, which separates two impressed transverse spaces; lateral edge prominent: elytra with regular impressed striæ, in which are equal, large, impressed punctures.

Length one-fifth of an inch.

If the short Fabrician description of *serricornis* be accurate, there can be no doubt that the present specimen is distinct.

[Belongs to *Trypopitys* Redt.—LEC.]

ANOBIUM Fabr.

1. *A. GIBBOSUM*.—Thorax much elevated, acute in the middle.

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Anobium gibbosum Melsh. Catal.

Body very hairy, brown; hairs more or less ferruginous: antennæ nearly naked, reddish-brown: thorax much elevated in the middle, the tip of the prominent part bifid: elytra with irregular striæ of punctures; a few more prominent tufts of hairs; humerus prominent: postpectus dusky.

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Length more than one-fourth of an inch.

The hairy surface, and prominence of the thorax render this a striking species. It is not common.

2. *A. BISTRIATUM*.—Black; feet dull rufous; antennæ pale yellowish.

Thorax a little compressed before, with a slight oblique groove each side, proceeding backward and becoming confluent on the posterior submargin; lateral margin impressed, edge rather prominent; anterior edge slightly reflected: elytra with obsolete series of impressed punctures; on the lateral margin are two deeply impressed striæ.

Length more than one-twentieth of an inch.

A small but very distinct species.

3. *A. NOTATUM*.—Above blackish, varied with cinereous; thorax with the posterior angles subacute.

Head with cinereous hair on the front; antennæ glabrous, rufous, as long as the thorax: thorax blackish-brown, a longitudinal impressed line, in which is very short cinereous hair, on each side of which is a small obsolete cinereous spot; base with a large cinereous patch; posterior angles rather prominent, subacute: scutel cinereous: elytra striate, punctured, [173] with short cinereous lines in the interstitial spaces, forming a band beyond the middle, and at base generally enclosing a black spot: beneath cinereous; feet blackish-rufous.

Length more than three-twentieths of an inch.

This pretty species is not at all common.

4. *A. TENUESTRIATUM*.—Reddish-brown; sericeous; elytra with filiform striæ.

Anobium villosum Melsh. Catal.

Antennæ moderate, the terminal joints not unusually elongated, the length of each not being equal to three times its breadth: thorax not remarkably convex, a little indented transversely each side on the posterior margin, but not carinated on the posterior middle; before the middle on each side, in a particular light, is a rounded spot of the general yellowish sericeous hair: elytra with very slender, not deeply impressed, punctured striæ.

Length less than three-twentieths of an inch.

A very common species; it frequently occurs in our museums. 1825.]

It is also very destructive to Iris root of the shops, and to various other farinaceous substances. It has some resemblance to the *A. striatum* Fabr., of Europe, but the terminal joints of the antennæ are less elongated, the thorax is less contracted before, and the striæ of the elytra are much narrower. The name given by Mr. Melsheimer is pre-occupied. [174]

TILLUS Fabr. Latr.

1. *T. BICOLOR*.—Black; thorax rufous, anterior and posterior margins black.

Body hairy: head black: antennæ dusky, pale rufous at base: mouth pale rufous: thorax contracted behind the middle, and a little dilated at the middle: rufous, anterior and posterior margins black: elytra black, with regular striæ of punctures: pectus rufous, anterior and posterior margins black: postpectus piceous: feet yellowish, knees and tarsi dusky.

Length more than three-tenths of an inch.

Resembles *T. elongatus* Linn., of Europe, but the middle of the pectus is not black, and the anterior and posterior margins of the thorax are black. Mr. Nuttall brought me a specimen of this insect from Arkansa, and Dr. J. F. Melsheimer sent me one under the name which I have adopted.

[This is a *Cymatodera*.—LEC.]

2. *T. UNDULATUS*.—Elytra pale testaceous, two undulated bands and tip black.

Notoxus undulatus Melsh. Catal.

Body long, slender: head black: eyes nearly entire: antennæ pale rufous, nearly filiform, slightly larger towards the tip, and hardly serrated: palpi pale rufous: thorax blackish, cylindrical, transversely indented on the anterior submargin, a little dilated on the middle of the lateral margin, and narrower behind: elytra with regular striæ of punctures, pale testaceous; basal margin blackish; an undulated band before the middle, another behind, the middle and tip black: [175] beneath rufous, stethidium sometimes varied with blackish: feet pale testaceous; nails pectinated.

Length nearly two-fifths of an inch.

This insect has the habit of a *Notoxus*, but it cannot be con-
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generic with the *mollis*, owing to the conformation of the first joint of the tarsi, which agrees with that of the present genus. The antennæ are much less serrated than those of *elongatus* Fabr., and are proportionally longer, the nails also are pectinated.

[Also a *Cymatodera* afterwards described as *C. longicollis* Spin.—LEC.]

CLERUS Fabr. Dej.

1. *C. TRIFASCIATUS*.—Rufous; elytra with a broad band on the middle, and tip black, an intermediate cinereous band.

Body hairy, bright rufous: head at tip dusky: antennæ black, terminal joint rufous at tip: thorax short, the transverse indentation rather deep: elytra rufous and granulated at base; on the middle a much dilated deep black band, undulated on its anterior and posterior edges, and with a narrow cinereous line at its anterior edge; behind this black band is a pale rufous band so covered by cinereous hair as to appear entirely cinereous; tip deep black: beneath rufous: feet hairy, black.

Length more than nine-twentieths of an inch.

This insect has considerable resemblance to the *ichneumoneus* Fabr., and *rufus* Oliv., but the black band occupies the situation of the rufous band of those insects, behind this band these two species have [176] a black band, but in our insect this is rufocinereous; the tip also is deep black, whereas in the above mentioned species, it is either spotted or margined with cinereous.

[Belongs to *Thanasimus*, as now separated from *Clerus*.—LEC.]

2. *C. PALLIPENNIS*.—Blackish; elytra pale testaceous, bifasciate with black.

Body greenish-black: antennæ and palpi pale rufous, terminal joint of the former a little dusky: thorax widest before the middle, contracted behind; an indented transverse line on the anterior submargin, and a less conspicuous one on the posterior margin: elytra very pale testaceous, with a black band on the middle, and another at tip: feet pale testaceous, posterior pair rather long.

Length less than one-fifth of an inch.

Similar in form to the *humeralis* nobis.

[Belongs to *Hydnocera*, afterwards described as *H. serrata* Newman.—LEC.]

1825.]

3. *C. UNIFASCIATUS*.—Blackish; elytra with a white band on the middle.

Body black, tinged with greenish: antennæ and palpi pale rufous: thorax widest before the middle, so as to resemble a tubercle on each side: elytra with a very narrow, pure white band on the middle: feet blackish; tarsi pale.

Length rather more than one-tenth of an inch.

Of a form similar to the preceding.

[Also a *Hydnocera*; described by Spinola as *H. punctata*.—LEC.]

ENOPLIUM Latr.

E. DISLOCATUM.—Black; elytra with a whitish band and spots.

Body punctured, black, hairy: head on the anterior [177] part reddish-yellow; antennæ brownish, yellowish at base, terminal joints not deeply serrated, somewhat rounded: thorax sub-cylindric: elytra with an oblique line from the humerus, having a spot at its inner tip, an angulated band beyond the middle, and a spot near the tip, whitish-yellow: feet pale.

Length from three-twentieths to nearly one-fifth of an inch.

Var. a. Spot at tip of the elytra obsolete or wanting.

Although the antennæ differ considerably from the characteristic form of this genus, yet as they have three large and separated joints at tip, and the palpi are all filiform, with five distinct joints to the tarsi, I have thought best to place the present insect in the genus *Enoplum*.

[This is *E. distrophum* Klug.; *Phyllobaenus transversalis* Spinola.—LEC.]

NECROPHORUS Fabr.

N. ORBICOLLIS.—Thorax orbicular: elytra with rufous band before the middle and spot at tip.

Body deep black, above polished: clypeus before with a large, square, rufous spot: antennæ black; clavum, excepting its first joint, light ferruginous: thorax orbicular, margined all round, excepting on the anterior portion, which is truncated; the impressed lines are well defined, and the longitudinal one extends to the base undiminished: elytra minutely punctured, and with two

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obsolete nervures; the anterior band is rather before the middle, but does not extend to the scutel; it is undulated, and does not reach the suture; the spot at tip is somewhat [178] reniform or trilobate, and does not reach the edge or suture: beneath piceous: feet above black: postpectus yellow sericeous.

Length more than nine-tenths of an inch.

It differs from *marginatus* Fabr., particularly in the rounded form of the thorax, which in that species is much narrowed behind: the elytra of *marginatus* have a rufous exterior margin, the basal band is not interrupted by the suture, and embraces the tip of the scutel; there is also a band at tip. The colors of the antennæ are arranged exactly as in *vespillo* Fabr., but the thorax is much more accurately rounded, and the elytral markings are different. The rotundity of the thorax is more complete than even that of *mortuorum* Fabr. The species occurs in the N. W. Territory: it is very rare in the Middle States. I have received a specimen from Dr. T. W. Harris of Milton, Massachusetts.

NITIDULA Fabr. Dej.

I. N. 6-MACULATA.—Blackish, with a broad pale rufous margin and elytral spots.

Nitidula 6-maculata Melsh. Catal.

Body blackish-brown or deep piceous: antennæ pale rufous: thorax with a dilated pale rufous margin: elytra with a dilated pale rufous margin; an angulated line in the form of a U at base, a small spot on the submargin, sometimes connected with a line which runs towards the tip, and becomes confluent with the lateral margin; an angulated or rounded spot [179] behind the middle, rufous: beneath piceous: feet paler.

Length more than a quarter of an inch.

The rufous angular line at the base of each elytron, in the form of the letter U, is a striking character.

[Belongs to *Lobiopa* Er.—LEC.]

2. N. ZICZAC.—Black-brown; elytra with an angulated band.

Body dark-brown or blackish, with numerous prostrate hairs: antennæ piceous, two basal joints rufous: thorax with a rufo-cinereous lateral margin: elytra without striæ, an obsoletely rufo-cinereous margin; on each is one or two obsolete rufous spots at 1825.]

base, and a very obvious ochreous spot on the middle, in the form of a V, the angle pointing towards the base: beneath blackish-piceous: feet and lateral margin of the pectus, rufous.

Length more than three-twentieths of an inch.

This species was sent me by Dr. J. F. Melsheimer, who remarked, that "it resembles the European *Nitidula undulata* very much, but differs in having the undula or lunule nearer to the apex of the elytra." With that species I am entirely unacquainted.

3. *N. UNDULATA*.—Yellowish-fulvous, varied with fuscous; an undulated, common immaculate space behind the middle of the elytra.

Nitidula undulata Melsh. Catal.

Body above fulvous, more or less tinged with yellowish: head varied with fuscous, sometimes nearly all fuscous, with the exception of the anterior portion, [180] and the antennæ: thorax literate with fuscous, the broad lateral margins immaculate with the exception of a single spot on the middle: elytra irregularly marked with small fuscous spots; a large, common, transverse, undulated, immaculate space behind the middle: slightly striated; striæ not obviously punctured, but furnished with very short, recurved hairs; exterior margin immaculate: beneath rufous: feet and tail paler.

Length about one-fifth of an inch.

The European analogue of this insect is certainly the *N. varia* Fabr., but the spots of the elytra of that insect seem to be more distinctly arranged in abbreviated longitudinal lines, and the common immaculate space of the elytra appears to be less obvious, and less acutely undulated. I know of no species in this country, for which it can be readily mistaken. It may possibly prove to be a variety of *varia*.

[Belongs to *Prometopia* Er.—LEC.]

4. *N. RUFA*.—Dull rufous, immaculate; elytra somewhat truncated at tip.

Nitidula rufa Melsh. Catal.

Body obscure rufous, with the margin a little paler: thorax with the lateral edge a little curved inwards, so that the greatest breadth is anterior to the posterior angles: elytra destitute of

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any appearance of spots, lines, or striæ, but on the sutural sub-margin is a longitudinal hardly elevated undulation; tip not reaching the tip of the tergum, truncated, or very obtusely rounded: feet and terminal segment of the venter, paler. [181]

Length less than three-twentieths of an inch.

[A species of *Epuræa* Er.—LEC.]

5. *N. GEMINATA*.—Reddish-brown: elytra, each with four ochreous spots, placed 2, 2.

Body obscure reddish-brown, a little hairy: thorax widest at the basal angles; lateral margin rufous: elytra striate with elevated, acute lines, and with intervening regularly concave grooves; tip rounded, concealing the extremity of the abdomen; on each elytrum are four ochreous spots, of which one is on the humerus: another near the scutel, elongated, approaching the suture, near the tip, and sometimes common; and two other rounded ones beyond the middle, placed transversely, equal; exterior margin obscure ochreous.

Length more than one-tenth of an inch.

The general color of the elytra is sometimes so similar to that of the spots, that the latter are hardly observable.

[Belongs to *Stelidota* Er.—LEC.]

6. *N. 8-MACULATA*.—Dark reddish-brown: elytra with four rufous spots placed 1, 2, 1.

Body very obscure reddish-brown: front with two indentations: thorax rather large; lateral margin paler; elytra striate with slightly elevated lines; a rufous oblong spot at the middle of the base, a rounded one behind the humerus, another on the sutural margin near the middle, and a fourth a little behind the middle, oval, oblique; tip rounded, concealing the tip of the abdomen, and rufous.

Length more than one-tenth of an inch.

The lines of the elytra are more obtuse than those [182] of the preceding species, the interstitial spaces are not so regularly grooved, and the spots are located differently. I found it in plenty, when on the Arkansas river with Major Long's party.

[Also a *Stelidota*.—LEC.]

7. *N. UNILINEATA*.—Reddish-brown; thorax with a line and elytra, each with about five spots, rufous.

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Body obscure reddish-brown : thorax with the lateral margins and longitudinal dorsal line rufous : elytra destitute of striæ ; a large oblong spot at base, near the scutel, a rounded one on the humerus, another near the middle of the exterior submargin, a rounded spot on the subsutural margin, rather behind the middle, another near the tip, and exterior and terminal margin, rufous ; tip very obtusely rounded, almost truncate, not covering the termination of the abdomen.

Length more than one-tenth of an inch.

For this species I am indebted to Dr. J. F. Melsheimer.

[This is probably a variety of *Amphicrossus ciliatus*.—LEC.]

8. *N. SEMITECTA*.—Piceous ; elytra abbreviated, rufous, piceous at tip.

Nitidula hemiptera Melsh. Catal.

Body dark rufo-piceous, punctured : head with an indentation each side above the antennæ ; antennæ rufous : clava oval, dusky : elytra about half the length of the abdomen, truncated, yellowish-rufous, or testaceous ; exterior margin and tip rufo-piceous.

Length nearly three-twentieths of an inch.

The name given by Mr. Melsheimer is pre-occupied. [183]

[Belongs to *Colastus* Er.—LEC.]

9. *N. UNICOLOR*.—Piceous, immaculate ; elytra abbreviated, slightly sericeous.

Body rufo-piceous : head with dense, confluent, small punctures : thorax with small confluent punctures : elytra darker, about half the length of the abdomen, a little sericeous in a particular light : beneath somewhat paler.

Length less than one-fifth of an inch.

I have found this species under loose bark of the yellow pine, in October.

[A species of *Carpophilus*.—LEC.]

10. *N. BRACHYPTERA*.—Piceous, immaculate ; elytra two-thirds the length of the abdomen.

Nitidula brachyptera Melsh. Catal.

Body entirely piceous : head with an impressed, transverse line between the antennæ ; antennæ rufous : thorax, posterior

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angles rounded : elytra abruptly truncate at tip, rather more than two-thirds the length of the abdomen : feet rufous.

Length less than one-tenth of an inch.

The smallest species I have seen.

[I have not identified the species : it is probably a *Carpophilus*.—LEC.]

SCAPHISOMA Leach.

S. CONVEXA.—Highly polished, black ; antennæ, mouth, feet, and tail piceous.

Scaphidium convexum Melsh. Catal.

Body black, very highly polished ; head piceous, paler before, with a deeply impressed, transverse arcuated line between the eyes : thorax with minute, rather distant puncture : elytra, punctures, excepting towards the base, more obvious than those of the [184] thorax ; terminal and posterior lateral margin obscurely piceous : feet, abdominal incisures and tail piceous.

Length one-tenth of an inch.

I received this species from Dr. J. F. Melsheimer, under the denomination I have adopted. From all I can learn, it seems to be very closely allied to the *S. agarica* of authors, of which, in fact, it may possibly prove to be a variety.

CATOPS Fabr.

1. *C. OPACUS*.—Brownish-black, opaque ; terminal and two basal joints of the antennæ rufous.

Ptomophagus opacus Melsh. Catal,

Body sericeous, with minute hairs, which, in a particular light are pale ferruginous : antennæ with the seventh joint largest, the eighth smallest : elytra not striated, but with a subsutural impressed line, and very numerous minute punctures, furnishing minute hairs : feet blackish piceous.

Length less than one-fifth of an inch.

Occurs frequently in a species of *Hydnum*.

2. *C. SIMPLEX*.—Pale brownish, sericeous ; terminal and five basal joints of the antennæ rufous.

Inhabits Arkansa.

Head dark ferruginous ; antennæ dark ferruginous, the five basal joints and terminal joint rufous ; palpi and mandibles ferru-
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ginous: thorax rather paler than the head, quadrate, a little transverse; sides regularly arcuated; posterior margin not wider than the anterior; [185] posterior edge rectilinear; angles rounded: elytra paler than the thorax, light brownish, with obsolete striæ, more obvious towards the tip; very numerous minute punctures, furnishing minute hairs: beneath piceous: feet rufous; thighs yellowish beneath.

Length nearly three-twentieths of an inch.

This species occurs on dung.

ATTAGENUS Latr.

A. CYLINDRICORNIS.—Reddish-brown; antennæ and feet pale rufous.

Dermestes cylindricornis Melsh. Catal.

Body reddish-brown, with very numerous, short, ferruginous, somewhat rigid, sericeous hairs: head blackish, with an obscure rufous frontal spot; antennæ pale rufous, terminal joint dark brown; mouth rufous: thorax nearly as dark as the head: elytra paler than the thorax: beneath piceous-black; feet pale rufous.

Length ♂ three-twentieths, ♀ less than one-fifth of an inch.

Var. a. Smaller.

Dermestes floricola Melsh. Catal.

Var. b. Elytra almost rufous.

Dermestes obscurus Melsh. Catal.

This species is common.

[The specimens in Dr. Melsheimer's collection belong to *A. megatoma*, which has been imported from Europe: the description seems rather to refer to *A. spurcus* Lec., Proc. Acad. Nat. Sc. Phil. 7, 109, but is too indefinite for accurate determination.—LEC.]

MEGATOMA Herbst, Latr.

M. ORNATA.—Blackish; elytra undulated with rufous. [186]

Dermestes undulatus Melsh. Catal.

Body with short, numerous hairs; antennæ pale rufous, terminal joint dusky: thorax somewhat variegated with irregular lines of rufo-cinereous hairs: elytra with one-half its surface occupied with rufous spots or irregular lines: beneath blackish-brown.

Length three-twentieths of an inch.

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The name *undulatus* is pre-occupied by a species described by Herbst. The short hair with which the body is furnished, is deciduous, particularly that of the thorax.

[Belongs to *Trogoderma*.—LEC.]

BYRRHUS Latr.

B. *ALTERNATUS*.—Blackish-brassy; elytra with alternate darker lines.

Head and thorax minutely punctured, black-brassy; with short, prostrate hair; antennæ black; the thorax with a slender, impunctured, dorsal line: elytra black, very slightly tinged with brassy; striæ very narrow, well impressed, and with very small punctures; interstitial lines flat, alternately more obviously polished; very minute hairs: beneath blackish, with small very regular punctures: feet blackish-piceous.

Length less than one-fifth of an inch.

I am indebted to Mr. Charles Pickering, of Salem, Massachusetts, for this species. I have never before met with it.

[Identical with *Cytilus varius* of Europe.—LEC.]

ELMIS Latr.

1. E. *CINCTUS*.—Blackish; elytra with a large rufous arcuated line and spot at tip. [187]

Parnus cinctus Melsh. Catal.

Head black; antennæ and palpi yellowish, dusky on the terminal joint; thorax black, anterior and posterior margins pale rufous: a transverse slight elevation each side of the middle with a corresponding indentation before: elytra convex, black, with a large arcuated pale rufous line, extending nearly straight from the humerus obliquely to near the sutural middle; thence it curves outwards and backwards towards the margin; towards the tip, a dilated longitudinal pale rufous line: feet elongated tibiæ and base of the thigh, pale rufous.

Length rather more than one-tenth of an inch.

The antennæ are very obviously eleven-jointed, and the terminal joints are slightly enlarged.

[Belongs to *Ancyronyx* Er.; previously described as *Macronychus variegatus* Germ.—LEC.]

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2. *E. 4-NOTATUS*.—Black; antennæ, two spots on each elytrum, and tarsi rufous.

Body black: antennæ entirely rufous; thorax simple: elytra with striæ of punctures; a large rounded rufous spot at the base of each, chiefly on the humerus, and a rufous elongated, obsolete one on the posterior declivity: tarsi rufous.

Length less than one-tenth of an inch.

MACRONYCHUS Mull.

M. GLABRATUS.—Blackish; feet slender; antennæ pale rufous.

Macronychus glabratus Knoch, J. F. Melsheimer.

Body entirely blackish; slightly hairy: thorax [188] with a slightly elevated line each side at base, hardly extending to the middle: elytra with series of large punctures not very deeply impressed; a more distinct series of hairs near the suture; an elevated, crenate, submarginal line extends from the humerus, but is abbreviated before the tip: feet elongated.

Length rather more than one-tenth of an inch.

HYDROPHILUS Linn. Fabr.

1. *H. ROTUNDUS*.—Very convex, oval; elytra destitute of striæ, excepting the sutural one.

Body black, polished, with very numerous, minute, regular punctures: palpi piceous: thorax with the lateral margin piceous; this color extends a short distance on the basal margin: elytra very obscurely piceous on the lateral margin, without any appearance of striæ or large impressed punctures; the sutural striæ very obvious, not reaching the base, generally hardly surpassing the middle.

Length three-tenths of an inch.

For this species I am indebted to Dr. J. F. Melsheimer, who informed me that it inhabits "marshy places in forests near the first ridge of the South Mountains, in Adams County, Pennsylvania." I also found it in Georgia. It resembles *globosus* nob., but is less convex, and is destitute of striæ of the elytra.

[Belongs to *Philhydrus*.—Lec.]

2. *H. STRIATUS*.—Dull testaceous; head dark greenish; elytra striate, and with small remote black spots.

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Hydrophilus striatus Melsh. Catal. [189]

Head dark greenish, with a cupreous gloss: thorax tinged with rufous, with a double, longitudinal, abbreviated line: scutellum black: elytra with acute, closely punctured striae; a small spot on the humerus, and two others arranged in a very oblique series, with respect to the first; then a transverse, much undulated series of five or six small spots; then two small spots near the sutural tip, black: beneath blackish: feet pale rufous.

Length more than one-fifth of an inch.

About equal in size, and closely allied to the *peregrinus* of Herbst, but that species is represented to be altogether destitute of the black spots on the elytra, and of the double thoracic line.

[Belongs to *Berosus*.—LEC.]

3. *H. EXIGUUS*.—Pale testaceous; elytra with punctured striae.

Body with numerous small punctures: head with the transverse line very distinct: elytra rather paler than the thorax, with the striae rather obtuse, punctured: beneath slightly tinged with rufous.

Length one-tenth of an inch.

This small species I obtained on the sea shore of Chincoteague Island.

[I have not identified this species.—LEC.]

4. *H. SUBCUPREUS*.—Black, obsoletely tinged with cupreous; elytra destitute of striae, excepting the sutural one.

Hydrophilus minutus Melsh. Catal.

Body oval, punctured, black, with a slight cupreous reflection: thorax obsoletely piceous on the lateral margin: elytra with rather larger punctures than [190] those of the head and thorax; striae none, excepting the sutural one, which is obsolete in the middle, and does not approach the base; exterior margin and tip obsoletely piceous: beneath blackish-piceous: feet piceous.

Length much less than one-tenth of an inch.

Closely allied to the genus *Sphæridium*. It is much smaller than the *minutus* of Herbst.

[A species of *Hydrobius*, having 8-jointed antennæ.—LEC.]
1825.]

SPHÆRIDIDIUM Fabr.

1. *S. PRÆTEXTATUM*.—Black; elytra with a yellowish lateral and terminal margin.

Sphærididium prætextatum Melsh. Catal.

Body oval, black, polished, punctured: palpi whitish: antennæ piceous: elytra striate; striæ very distinct, impressed, punctured; interstitial spaces punctured: a broad pale yellowish outer margin, commencing at the anterior angle, and gradually dilating to the tip: feet piceous.

Length three-twentieths of an inch.

[These three species belong to *Cercyon*.—LEC.]

2. *S. NIGRICOLLE*.—Black; elytra and feet pale testaceous.

Sphærididium glabratum Melsh. Catal.

Body oval, polished, punctured: head black: antennæ piceous; capitulum dull rufous: palpi piceous: thorax black: elytra testaceous: striæ slender, not deeply impressed, punctured; terminal margin obsoletely paler, interstitial lines punctured: feet pale testaceous.

Length more than one-tenth of an inch.

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Var. a. Elytra and feet dark reddish-brown, the former with a very obvious pale spot at tip, somewhat similar to the *unistriatum* of Beauvois, but much smaller than he represents that insect to be.

8. *S. OCCALLATUM* [OCELLATUM].—Black; elytra with a pale tip; feet piceous.

Body oval, black, polished, punctured: palpi piceous: antennæ blackish-piceous: elytra with very distinctly punctured, impressed striæ; a large dull yellowish spot at tip, rounded on its anterior termination, and extending further on the lateral margin than on the suture: beneath blackish: feet piceous.

Length much less than one-tenth of an inch.

Found in putrescent animal substances at Senipuxten. It is about the size of *apicalis nobis*, which it much resembles, but it is distinguishable by its black color, and firmer consistence.

APHODIUS Illig. Fabr.

A. VITTATUS.—Black; clypeus trituberculate; elytra with a dull rufous vitta.

Scarabæus vittatus Melsh. Catal.

Head minutely punctured; three tubercles placed in a transverse line, the intermediate one largest, and the lateral ones elongated in a line to the eye: tip of the clypeus slightly and very obtusely emarginated: thorax with numerous small punctures: elytra with narrow punctured striæ; the interstitial spaces flat; a dull rufous vitta including the humerus at base, [192] extending somewhat obliquely towards the apex of the elytron, and contracted in the middle: feet obscure rufous.

Length more than three-twentieths of an inch.

This insect is very like the *terminalis* nobis, but it may be distinguished by the vitta of the elytra, and the much less profoundly emarginated clypeus.

TROX Fabr.

1. T. STRIATULUS.—Elytra with elevated acute lines, and intermediate regular grooves.

Trox striatulus Melsh. Catal.

Head blackish-brown, with confluent punctures; tip widely emarginate: thorax blackish-brown, with dilated confluent punctures; a slightly impressed longitudinal groove; sides very much decurved: elytra light brown, with numerous profound grooves, which are separated by elevated acute lines.

Length three-twentieths of an inch.

The smallest species known to inhabit the United States, and so perfectly distinct in the striking character of its grooved elytra, as not to require any comparative observations.

2. T. TERRESTRIS.—Elytra with raised obtuse lines, on which are round fascicles of short hairs.

Trox terrestris Melsh. Catal.

Body blackish-brown: head with two small tubercles on the front: thorax with the dorsal groove very distinct, contracted and almost obliterated in its middle, so as to be nearly interrupted into two, on each [193] side of the posterior portion of 1825.]

it is another groove equally profound ; posterior angles obliquely truncated : elytra with the fascicles of yellow hair, on the elevated lines, rounded and not oblong, equal ; interstitial spaces with small tubercles.

Length nearly one-fourth of an inch.

This insect is about equal in size to the *arenarius* Fabr., from which it differs in having no capillary lines in the interstitial spaces of the elytra. The *variatus* of Melsh. Catal. if not altogether the same as the *arenarius* of Europe, is certainly most closely allied to it.

3. T. PORCATUS.—Elytra with elevated interrupted lines and numerous transverse punctures on the interstitial spaces.

Trox porcatus Melsh. Catal.

Body brownish-black : head somewhat inequal, with a more distinct frontal groove : thorax with short brownish hair ; a deep and well defined longitudinal groove, sides inequal ; lateral edge entire ; posterior angles projecting : elytra with regular series of interrupted hairy lines, the series alternately smaller ; interstitial spaces with dilated transverse impressed distinct punctures.

Length nearly nine-twentieths of an inch.

A little larger than *canaliculatus* nobis, which it resembles, but it differs in having the transverse punctures of the elytra ; *capillaris* nobis is smaller than the above-mentioned species, and may be distinguished from the present by the capillary lines of its elytra.

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SCARABÆUS Latr.

S. RELICTUS.—Head with an elevated transverse line, interrupted in the middle ; clypeus at tip elevated and bidentate.

Body brownish-black : head with a transverse elevated line between the origin of the antennæ, interrupted in the middle, and most prominent near the interrupted part ; tip of the clypeus with two reflected, acute denticulations : thorax with rather sparse punctures : elytra punctured, and with three double series of punctures, converging towards the apical angle ; the second and third double series do not reach the angle, a fourth double series is on the exterior submargin, but is not so distinct as the others : beneath piceous : pectus and postpectus hairy : feet above blackish : venter blackish.

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Length more than four-fifths of an inch.

It may be compared with the *S. punctatus* Fabr. of Southern Europe, but is of a more slender form, and is otherwise distinguished by the armature of the anterior termination of the head. I have found specimens in Pennsylvania. It varies in having the reflected tip of the head emarginate, and not deeply divided into two teeth. I have received a specimen from Dr. T. W. Harris, of Milton, Massachusetts.

[Belongs to *Ligyrrus* Burm.—LEC.]

MELOLONTA Fabr.

1. M. BALIA.—Chesnut-brown; head and thorax blackish-brown; the former and the inferior surface of the stethidium hairy. [195]

Body cylindrical; head blackish, with small but dense and confluent punctures; front, below the vertex, and above the transverse impressed line, with a band of rather long dense ochreous hairs, terminating at the eyes; clypeus deeply and widely emarginated, the edge reflected, and beneath the edge is a fringe of recurved hairs; thorax rather prominent on the middle of the lateral edge; nearly as dark colored as the head; punctures numerous, irregularly disposed: scutel with a few punctures, and with reflected prostrate yellow hairs at its base, partly covered by the base of the thorax: elytra confluent punctured, chestnut-brown: stethidium beneath, with dense pale yellow hair: nails with a prominent tooth on the middle, and an angle at base.

Var. a. Thorax rufo-castaneous.

Length more than thirteen-twentieths of an inch.

This common species was sent to me by Dr. J. F. Melsheimer, under the name which I have adopted. The following are his remarks: "it differs from *M. quercina* in being more cylindrical, from *M. quercus*, in the absence of the "rore cœrulescenti," &c. and from *M. hirticula*, in the want of the triple series of fuscous erect hair on each elytrum. In its proper season this insect may be found in vast numbers under the deciduous leaves of forests; during the night the millions of wings that fan the air, produce a loud humming sound, not unlike that emitted by the enraged occupants of a humble-bee's nest."

1825.]

It is much smaller than the *quercina*, smaller than the *hirticula*, and larger than *quercus*.

[Belongs to *Lachnosterna*.—LEC.]

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2. M. EPHILIDA.—Ochraceous; thorax somewhat rufous; head blackish; clypeus nearly entire.

Head blackish, with sometimes an obscure chestnut disk; very densely and confluent punctured; punctures small: clypeus, anterior termination widely, but slightly truncated, not at all emarginated, the edge reflected: thorax pale rufo-castaneous. polished; punctures irregularly scattered; middle of the lateral edge rather prominent: scutel with a very few punctures, and with reflected prostrate hairs at its base, partly covered by the base of the thorax: elytra pale ochraceous, densely punctured: stethidium beneath, with pale yellow, dense hair: nails with a strong prominent tooth on the middle.

Var. a. Scutel entirely destitute of punctures.

Length three-fifths of an inch.

This species closely resembles the preceding, but it has a more robust form, it is somewhat shorter, destitute of the frontal band of hair, and is of a paler color. I adopt the name given to it by Dr. J. F. Melsheimer, who remarked in a letter to me, that "it approaches nearest to a *Melolontha* described by Professor Knoch under the name of *angularis*, but as the thoracic angles of that insect are covered with a substance resembling Mother of Pearl, or, as the Professor expresses it, "einer farbe die völlig mit der kalkerde überein kömmt; welche von den Mineralogen Schaumerde genannt wird," we cannot connect with propriety, our insect with the *M. angularis*." In color it closely resembles the *longitarsa nobis* (in Long's second expedition) but that [197] insect is somewhat smaller, with an emarginate clypeus and much longer tarsi.

[Belongs to *Lachnosterna*; Burmeister places it in *Trichestes*, which is not entitled to be considered as a genus.—LEC.]

3. M. MOESTA.—Elytra punctured, and with two double series of punctures; clypeus slightly emarginated.

Melolontha moesta Knoch in Melsh. Catal.

Head with very dense profound punctures; transverse line between the eyes rather deeply indented: clypeus with the margin

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recurved, the tip very obtusely, but not very profoundly emarginated: thorax with scattered profound punctures; lateral edge obtusely projecting a little, rather behind its middle: elytra with numerous punctures, and with two regular double series of punctures on the disk, one or two on the exterior submargin, and a single subsutural series: beneath glabrous: nails with a robust prominent obliquely truncated tooth beyond the middle.

Length about one-half an inch.

The color of young specimens is rather pale chestnut, but, as is the fact with respect to many species, as they grow older, the color becomes darker, and it is not uncommon to find individuals that are almost black.

[A species of *Diplotaxis*, previously described as *M. liberta* Germ.—LEC.]

4. *M. SORDIDA*.—Covered with short dense hair.

Melolontha sordida Melsh. Catal.

Superior surface entirely covered by short close set hairs, which are longest on the head, thorax, and base of the elytra; the punctures are also dense and confluent: clypeus with the edge reflected; tip widely emarginated: thorax, lateral edge reflected, and [198] a little dilated rather behind the middle: elytra having the subsutural line obliterated: beneath nearly glabrous: nails with an obliquely truncated, very robust tooth beyond the middle.

Length about two-fifths of an inch.

The color varies considerably. I have a specimen that is of a pale chestnut color, and others that are dark dull brown. I have found this species in May; and at Chinquoteague Island, many individuals occurred under yellow-pine trees in company with the preceding species in October. It is very well distinguished from other species by its equally distributed hairy covering.

[Belongs to *Diplotaxis*, and afterwards described as *D. carbonaria* Burm.—LEC.]

5. *M. FRONDICOLA*.—Elytra punctured, and with two double series of punctures; clypeus entire.

Melolontha frondicola Knoch, Melsh. Catal.

Body pale chesnut: head dusky, with large confluent punctures; transverse line angulated in the middle; clypeus very obtusely rounded at tip, almost truncated, the edge reflected: thorax

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with rather large, very numerous punctures, more dense and confluent on the sides; lateral edge a little obtusely dilated at the middle: elytra with numerous punctures, and with two double striæ of punctures on the disk, one or two on the exterior submargin, and a single subsutural one: beneath glabrous: nails with a remarkably robust broad compressed truncated tooth.

Length three-tenths of an inch.

Although this species is very similar in some respect to the *moesta*, yet it is so much smaller as to [199] be readily distinguished; the clypeus also of that species is emarginated, and the punctured series are much more regular than those of the present species, in which the punctures of the series are often confluent with the punctures of the interstitial lines. As regards, size, it is but little smaller than *vespertina*, which has numerous indented striæ on the elytra.

[Also a *Diplotaxis* and appears to be *D. testacea* Burm.—LEC.]

6. *M. UNIFASCIATA*.—Thorax very dark green; elytra testaceous, with a black abbreviated band or spot on the middle.

Head densely punctured, particularly before, very dark greenish on the vertex, and tinged with cupreous before: clypeus entire at tip, the edge reflected: thorax blackish-green, rather sparsely punctured, punctures small, lateral edge a little dilated rather before the middle: scutellum dark green, sometimes tinged with cupreous, with a few punctures: elytra pale testaceous, in a particular light having a slight metallic tinge, each with seven or eight regular striæ of punctures, and a few scattered ones near the suture; margin and suture dusky; on the middle is a blackish band which is more or less interrupted or undulated: beneath black, slightly tinged with green and cupreous: stethidium a little hairy: acetabulum with an indented longitudinal line: nails, of the anterior and intermediate feet having one nail simple, and the other bifid at tip, of the posterior feet simple.

Length two-fifths of an inch.

Var. a. Elytra, excepting at base, simple.

This species is very closely allied to *varians* Fabr., but it may be distinguished by its much larger size. [200] The *varians* is not uncommon in Pennsylvania, but the present is a Southern species. Dr. J. F. Melsheimer gave it the name of *vernalis*,

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which is preoccupied in this genus; he informed me that it "was captured in Virginia, in the early part of the year 1807. Male and female were flying about in a ploughed field in innumerable multitudes."

Judging from its habit, it belongs to Megerle's genus *Anomala*.

[An *Anomala* previously described as *M. binotata* Schönh.—LEC.]

HOPLIA Illig.

H. TRIFASCIATA.—Head black: clypeus at tip reflected: thorax densely covered with reddish-yellow scales: feet brownish-red: scutellum blackish: elytra light brownish-red, with sparse yellowish scales, which, however, are more dense in some parts, so as to form three bands, which are tolerably distinct; of these, one is at the base, the other on the middle, and the third near the tip; they are somewhat undulated: anal segment and beneath densely covered with pale cinereous scales, which have, in some parts, a cupreous reflection. The opposite sex is black on those parts, which in the other are brownish-red, and the bands of the elytra are hardly discernible: in both sexes the humerus is prominent, and at the decurvature of the elytra near the tip, they are elevated almost into an angle.

Length nearly one-third of an inch.

The great difference in color between the two sexes of this species, may readily deceive naturalists into the belief that they are two distinct species.

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[Described by Burmeister as *H. primona*; the male also by Melsheimer as *H. tristis*.—Lec.]

CETONIA Fabr.

C. VESTITA.—Hairy; clypeus emarginate; elytra with a few white spots.

Body brownish-black, with very numerous, rather long, reflected, cinereous hairs: head with the hairs smaller and sparse before; clypeus widely emarginate at tip, the lateral angles subacute and a little elevated; lateral margin not recurved: thorax with a carinated glabrous line, little elevated but very distinct: elytra with two hardly obvious elevated lines on the middle, con-
1825.]

fluent behind; striæ slightly impressed, with small punctures; on each elytrum is a small white dot on the middle of the sutural submargin, another behind the middle and approaching nearer to the suture, three oblique ones on the exterior submargin, and a transverse one at tip near the suture.

Length two-fifths of an inch.

This species resembles the *sepulchralis* Fabr., but it differs in having the clypeus emarginated, the hairs of the body elongated, and the spots of the elytra fewer in number. In form it is more slender than that well known species, and its color more opaque and less metallic. It is much more closely allied to the *C. hirta* Fabr., of Europe, the spots being nearly similar; but the *vestita* is one half smaller, and the hair is much coarser and much less abundant; can it be a variety of that species?

I have met with but two specimens, one belonging to the Philadelphia Museum, and the other sent to me by Dr. T. W. Harris, of Milton, Massachusetts. [202]

[Unknown to me; believed by Schaum and other entomologists to be the European species.—LEC.]

LUCANUS Linn. Latr.

1. *L. PLACIDUS*.—Head small, slightly concave; tooth of the mandibles emarginate.

Body dark reddish-brown: head slightly concave, rather narrower than the thorax: mandibles hardly as long as the head, regularly curved; tooth a little beyond the middle, not very prominent, but rather wide and emarginate at tip: elytra without striæ: anterior tibiæ about four-toothed, superior tooth small.

Length one inch.

I found this species when with Major Long's party in Arkansa. It differs from the *dama* Fabr. in being smaller, in having the head narrower than the thorax, the mandibles shorter and less arcuated, and their tooth wide and bifid at its tip.

[Appears to be the female of *L. lentus*, a species cited from Say, but of which, as Burmeister observes, no description can be found in his writings; it was first published under that name by Laporte, in his Hist. Nat. 2, 71. The name *placidus* has greatly the priority.—LEC.]

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2. *L. BREVIS*.—Short and wide; mandibles one-toothed; elytra smooth, humerus mucronate.

Body robust, reddish-brown: head wide, rather narrower than the thorax, minutely punctured, a little concave above the mandibles; mandibles short, with one simple oblique tooth on the middle, extending inwards and forwards; thorax wide with minute punctures, angles rounded; posterior ones not obliquely truncated; elytra nearly smooth, having numerous small punctures, and obsolete, hardly impressed lines; humerus mucronate: anterior tibiæ with five or six small denticulations, and a broad terminal, prominent one widely emarginate; intermediate tibiæ with a single spine on the middle. [203]

Length nearly nine-tenths of an inch.

This species seems to be related to *parallelus* nobis, but it is much wider in proportion to its length, and there are no distinct striæ on the elytra.

[A species of *Dorcus* unknown to me.—LEC.]

TENEBRIO Fabr.

1. *T. REFLEXUS*.—Blackish-green; edge of the clypeus reflected; thorax subquadrate.

Tenebrio æruginosus Melsh. Catal.

Body very dark green, almost black: head minutely and densely punctured, anterior edge of the clypeus regularly arcuated and reflected; antennæ black; palpi blackish piceous; thorax rather transversely quadrate, minutely and densely punctured; angles subacute: elytra with impressed, punctured striæ; interstitial lines depressed, almost flattened, obsoletely punctured: tibiæ, anterior pair of the male with a prominent angle above the middle, and with the second pair much arcuated on the inner side.

Length three-fifths of an inch.

The specific name *æruginosus* is preoccupied.

[This belongs to *Centronipus*, and is *T. calcaratus* Fabr.—LEC.]

2. *T. RUFIPES*.—Black, polished; terminal joint of the antennæ pale fulvous; thighs bright rufous.

Tenebrio rufipes Melsh. Catal.

Body oblong, black, polished: antennæ black, two basal joints piceous, terminal joint, except at its base, fulvous: thorax 1825.]

rather narrower than the elytra, and with the head densely and minutely punctured: elytra with impressed, punctured striæ, and convex interstitial lines: thighs bright rufous; tibiæ, anterior [204] pair of the male with a short spine on the inner middle.

Length half an inch.

I have stated this insect to be polished, in order to distinguish it from the *Upis fulvipes* Herbst, which it very much resembles, and with which it is strictly congeneric.

[Also a *Centronipus*.—LEC.]

[Continuation from Vol. 5, Nov., 1826, pp. 237—284.]

OPATRUM Fabr.

1. O. NOTUM.—Brownish-black: elytra with regular series of impressed punctures.

Opatrum clathratum Melsh. Catal.

Head with small, close set punctures; terminal emargination not angulated: thorax with small, close set punctures; lateral edge reflected; posterior angles somewhat produced subacute: elytra destitute of impressed striæ, but with regular series of large, profoundly impressed, rather longitudinal punctures; tarsi piceous.

Length less than seven-twentieths of an inch.

This does not correspond with the description of the *clathratum* Fabr., inasmuch as the elytra are not striated. It is common.

[Belongs to *Opatrinus*.—LEC.]

2. O. PULLUM.—Brown; head and thorax darker; elytra with punctured striæ; beneath reddish-brown.

Desc. Head and thorax dark-brown, minutely and densely punctured; posterior angles not prominent; lateral edges not reflected: antennæ piceous; terminal emarginations of the clypeus not angulated: elytra with impressed, punctured striæ, the punctures profound, somewhat transverse; interstitial lines with numerous small punctures: beneath reddish-brown.

Length rather more than three-tenths of an inch. [238]

I obtained this species on the margin of the Arkansas river,

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when with Major Long's party. It may be distinguished from the preceding by the striated elytra, and by the simple edge of the thorax.

[Unknown to me, perhaps a *Blapstinus*.—LEC.]

BOROS Herbst.

B. UNICOLOR.—Blackish-brown, punctured; thorax not obviously indented behind.

Body depressed, rather slender, blackish-brown, punctured: head suboval, punctures rather large, numerous; smaller before; a dilated indentation each side anterior to the eyes: antennæ but little longer than the head: thorax oval, accurately rounded each side, punctures numerous, rather large; no indentation: elytra with irregular, numerous punctures, smaller than those of the thorax, not disposed in any regular series; an obtuse indented line on the outer margin, and another at the suture.

Length nine-twentieths of an inch.

I received this insect from Dr. J. F. Melsheimer, under the name I have adopted. It is certainly very closely allied to *B. elongatus* Herbst, but judging by the figure given by this author, it is much smaller; it is also destitute of any obvious indentation on the posterior part of the thorax.

[On comparison I find the sides of the thorax to be a little more rounded than in the European specimens.—LEC.]

BOLETOPHAGUS Illig.

B. CORTICOLA. [Ante, 1, 115.]

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EUSTROPHUS Illig.

E. TOMENTOSUS.—Brown; golden sericeous; elytra immaculate.

Mycetophagus tomentosus Melsh. Catal.

Body oblong-oval, regularly and equally rounded, before and behind; brown, covered with very numerous, bright sericeous hairs: antennæ and palpi rufous: thorax but little undulated on the posterior edge: elytra with slender, punctured striæ: beneath color of the antennæ.

Length one-fifth of an inch.

At first view, this might be mistaken for the *E. bicolor* Fabr. 1826.]

Dej., but that species is considerably larger, of a much darker color, almost black, with a comparatively slight opal-sericeous gloss; the antennæ also are blackish, with the base and tip rufous or fulvous; the *bifasciatus* nob., has banded elytra. [240]

HELOPS Fabr.

1. *H. PULLUS*.—Body short, very convex, somewhat cupreous; third joint of the antennæ not greatly longer than the fourth.

Helops pullus Melsh. Catal.

Antennæ piceous; third joint hardly as long as the fourth and fifth together; the two latter equal: eyes moderate: head and thorax densely and equally punctured; anterior angles of the latter subacute; lateral edge slightly contracted behind the anterior angles: elytra rather paler than the head and thorax, and more obviously cupreous, with punctured striæ: pectus each side, with numerous, longitudinal, impressed lines; tarsi dark rufous.

Length from one-fourth to three-tenths of an inch.

In general form, it somewhat resembles *H. contractus* Beauv.; particularly in the great convexity of the superior surface of the body; but it cannot be mistaken for that insect.

2. *H. POLITUS*.—Cupreous; elytra united; wings imperfect.

Body bright copper, polished; punctured: antennæ long, blackish; third joint equal to the fourth and fifth together, which are equal; labrum piceous: eyes moderate: thorax decidedly widest before, narrowest at the posterior angles, with small, close set punctures, and a longitudinal, obsolete, impressed line: elytra united, the line of the suture distinct, with acutely impressed, punctured striæ; interstitial lines flat, with very minute punctures: wings imperfect, shorter than the elytra: beneath piceous. [241]

Length two-fifths of an inch.

I obtained this handsome and curious species in East Florida.

[Seems to be related to *H. cisteloides* Germ., but does not agree satisfactorily with that species.—LEC.]

3. *H. TENUICOLLIS*.—Blackish; terminal joint of the antennæ fulvous; thorax cylindrical.

Body elongated, brownish black: eyes large: antennæ rather short; fifth joint obviously shorter than the fourth; terminal

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joint fulvous : thorax minutely and equally punctured ; narrow, sub-cylindric, slightly wider in the middle, equally wide at base and tip ; narrower than the elytra : elytra with rather wide and profound striæ, which are punctured ; interstitial lines narrow, convex ; beneath piceous : anterior tibiæ slightly arcuated.

Length half an inch.

This species resembles a *Upis*, in the form of the thorax.

[A *Stenochia* not different from *S. terminata* Say, ante, 2, 157.—LEC.]

4. *H. ARATUS*.—Body short, moderately convex ; third joint of the antennæ rather shorter than the fourth and fifth united ; lateral thoracic edges rectilinear.

Head punctured densely : antennæ dark testaceous : thorax dull metallic greenish, slightly tinged with purplish ; thickly punctured, punctures rather large ; angles subacute ; lateral rectilinear : elytra slightly purplish, brassy, with punctured striæ, and smaller punctures on the intermeditæ spaces : beneath blackish : pectus punctured on each side, with small, close set, longitudinal impressed lines : feet reddish-testaceous at base.

Length one-fourth of an inch.

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I am indebted for this species to Mr. Jno. S. Skinner, editor of the American Farmer, who received it from a correspondent, with a note, stating that they had been found on the body of the peach tree, just below the surface of the ground.

[I cannot identify this species ; it does not appear very distinct from *H. pullus*.—LEC.]

CISTELA Fabr.

1. *C. OBSCURA*.—Blackish-brown, with short hairs ; antennæ and feet dusky rufous ; striæ of the elytra not deeply impressed.

Cistela obscura Melsh. Catal.

Body oblong, varying in color from a light brown to a blackish, with numerous short pale hairs arising from punctures : head transversely a little indented between the antennæ : antennæ moderate, dark rufous : palpi rufous : thorax with the posterior angles subacutely rounded : elytra with slightly impressed striæ, their punctures profound : beneath piceous, and, excepting the pectus, punctured : feet rather paler, somewhat rufous.

Length ♂ less than one-fourth ; ♀ more than three-tenths of an inch.

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The male in my specimens is of a paler color than the female. It differs from the *atra* nob., by having the striæ of the elytra much less deeply impressed.

The palpi are all terminated by a joint formed like a reversed triangle; it therefore belongs more properly to the genus *Allecula* of authors.

2. C. ATRA:—Blackish-brown, with short hairs; striæ of the elytra deeply impressed.

Cistela atra Melsh. Catal.

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Body nearly black, with a tinge of brown, with numerous short blackish hairs, arising from punctures: head transversely indented between the eyes; antennæ dark fuscous, nearly half as long as the body, terminal joints somewhat ovate, and slightly petiolated: thorax with the posterior angles subacutely rounded: elytra with rather deeply impressed, punctured striæ: beneath dark rufo-piceous.

Length three-tenths of an inch.

It may be distinguished from the preceding, by the form of the terminal joints of the antennæ, as well as by the more deeply impressed striæ.

[The name having been previously employed, this species has been described by Dr. Melsheimer as *Allecula nigrans*.—LEC.]

MORDELLA L. Fabr.

1. M. TRIFASCIATA.—Testaceous, disk of the thorax and three bands of the elytra black.

Mordella trifasciata Melsh. Catal.

Body pale testaceous: head immaculate: thorax with the disk and anterior margin black: elytra with a black band at base, irregular on its posterior edge, and extending a short distance down the suture; another on the middle, rather narrower at the suture, and a third at tip: beneath, excepting the pectus, dull piceous, slightly yellowish sericeous: feet pale.

Length one-tenth of an inch.

2. M. ATTENUATA.—Pale rufous; thorax with a black spot; elytra black, with an abbreviated rufous vitta.

Desc. Body rufo-testaceous: antennæ black, four basal joints pale rufous: thorax with a large black spot on the anterior disk:

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elytra black, a rufo-testaceous [244] vitta, commencing at the middle of the base where it is broadest, and gradually attenuated to the tip, which does not reach the middle; a sericeous vitta extends the whole length in a particular light, more distinct towards the tip: postpectus, venter and posterior feet piceous, sericeous: anterior and intermediate feet pale rufous.

Length less than one-fifth of an inch.

ANASPIS Geoff.

A. RUFA.—Entirely rufous, immaculate.

Mordella rufa Melsh. Catal.

Body rather dull rufous, more obviously sericeous on the elytra: beneath clearer rufous: feet somewhat paler; antennæ longer than the thorax.

Length more than one-tenth of an inch.

ANTHICUS Fabr.

1. A. CONSTRICTUS.—Black; elytra dark rufous at base; thorax very much contracted behind the middle.

Desc. Head black, polished: antennæ blackish-piceous: thorax black, polished, very profoundly contracted behind the middle, bilobate, anterior lobe much the larger: elytra dull rufous, gradually becoming darker towards the tip, which is almost black; with regular series of impressed punctures: thighs blackish, rather dilated: tibiæ dull rufous.

Length one-tenth of an inch.

Differs from *cinctus* nob., by having the thorax much more profoundly contracted, and in being destitute of any cinereous band, or terminal spot.

[Belongs to *Tomoderus* Ferté.—LEC.]

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2. A. BIFASCIATUS.—Rufous; elytra with a black band and tip.

Head darker than the thorax: antennæ and palpi paler than the head: thorax gradually narrowed behind, not abruptly contracted: elytra irregularly punctured; a black band on the middle, a little dilated on the outer margin, and slightly interrupted at the suture; a terminal black band: beneath pale rufous.

Length one-tenth of an inch.

Comes near to *basilaris* nob.; but, in addition to its difference 1826.]

in having the elytra banded, the base of these wing-sheaths is not turgid, as in that species. I obtained a specimen in East Florida, when in that country with Mr. MacLure's party.

[The name being preoccupied, this was afterwards named by Ferté *A. bizonatus*; it does not, however, appear different from his *A. cervinus*.—LEC.]

3. *A. PALLIDUS*.—Pale; elytra with a broad band and narrow suture, blackish.

Head and thorax pale ochreous; the latter with a moderate longitudinal groove, and gradually narrowed towards the base; the lateral curvature behind the middle being somewhat concave: elytra pale yellowish; basal margin dusky; a dilated blackish band on the middle much dilated on the exterior margin, and at the suture; on both of which, it extends in a narrow line to the base and tip; punctures not distinct; beneath pale rufous; feet whitish.

Length one-tenth of an inch.

This may be distinguished by its thoracic groove, pale color, single band, and marginal lines.

[I have not identified this species.—LEC.]

4. *A. POLITUS*.—Blackish; thorax not narrowed behind; elytra bright rufous. [246]

Body with rather long hairs: head blackish: antennæ dull rufous: thorax blackish, rather short, not obviously narrowed behind; a transverse impressed line at base: elytra impunctured, polished, rounded, bright rufous, at the somewhat pointed and blackish: feet bright rufous.

Length more than one-twentieth of an inch.

The form of the thorax and elytra of this species are quite different from those of the preceding species.

[I have failed to identify this insect.—LEC.]

5. *A. LUGUBRIS*.—Black, impunctured; two basal joints of the antennæ and mouth rufous.

Inhabits Missouri.

Body black, impunctured, slightly hairy: head polished: antennæ a little serrate, two basal joints obscure rufous: mouth obsolete piceous: thorax polished, transversely oval, orbicular, a

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distinct impressed transverse line at base : elytra opaque, rather hairy, with minute transversely-confluent punctures.

Length less than a quarter of an inch.

Found near Fort Osage.

[This and the four following species belong to *Pedilus*. This one is described as *Pyrochroa inornata* Randall, *Ped. imus* Newman, and *Ped. nigricans* Ziegler.—LEC.]

6. *A. COLLARIS*.—Black ; thorax rufous ; two basal joints of the antennæ at tip dull rufous ; mouth pale.

Inhabits Missouri.

Body black, impunctured, a little hairy : antennæ a little serrate, two basal joints dull rufous at tips : mouth pale, palpi dusky : thorax transversely oval-orbicular, rufous, polished, a transverse impressed basal line : elytra hairy, with small, numerous, irregular punctures.

Length one-fifth of an inch.

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Distinguished from the preceding by the color of the thorax.

[Afterwards described as *Ped. rufithorax* Newman, and *P. marginicollis* (var.) Ziegler.—LEC.]

7. *A. TERMINALIS*.—Black, punctured ; thorax rufous ; elytra yellowish-white at tip.

Inhabits Missouri.

Body black, punctured, with short hair : head polished, impunctured : antennæ black-brown : labrum and mouth yellowish-white : maxillary palpi dusky at tip : thorax rufous, transversely oval, impunctured, a transverse impressed basal line : elytra with transversely confluent punctures, a yellowish-white terminal spot : pectus rufous : nails one-toothed beneath.

Length more than one-fifth of an inch.

Found in Missouri and Arkansas.

[Probably the male of *Ped. collaris*.—LEC.]

8. *A. LABIATUS*.—Black, exterior margin of the thorax, clypeus, labrum, and basal joints of the feet rufous.

Inhabits Missouri Territory.

Body black, with minute punctures : head obsoletely piceous on the vertex, a little indented above the antennæ : antennæ filiform, somewhat serrate, two first joints rufous : clypeus, labrum, and mouth, rufous : mandibles black : thorax punctures sparse, 1826.]

a longitudinally oval rufous spot on the lateral margin, and a transverse impressed line and spot at base: scutel rounded at tip: elytra densely punctured, tip mucronate, and with an indented spot: coxæ and trochanters rufous: pectus rufous, a lateral, sub-marginal black spot.

Length about seven-twentieths of an inch. [248]

Taken on the lower Missouri, near Fort Osage: closely allied to the preceding species.

[Afterwards described as *Pyrochroa infumata* Hentz, and *Ped. marginicollis* Ziegler.—LEC.]

9. *A. IMPRESSUS*.—Black: thorax rufous; an indented spot at the tip of each elytra.

Inhabits Pennsylvania.

Mouth, antennæ, two basal joints, and palpi at base, dark rufous: thorax rufous, with a longitudinal slightly impressed line: elytra densely and irregularly punctured; a large profound, indented, oval impunctured spot at the sutural tip of each elytra.

Length three-tenths of an inch.

Resembles *A. collaris*, but is distinguished by its somewhat larger size, and the profoundly impressed spot at the tip of each elytra. I found this species early in May, attached to the side of a *Meloe angusticollis*, which was perfectly at rest upon the ground, not appearing to be in the slightest degree incommoded by the weight of its temporary parasite, but seeming rather pleased with its society. This species and the *lugubris*, *collaris*, *terminalis*, and *labiatus*, differ much from the other species of the genus that have come under my observation; but as they appear to me to approach more closely to this genus than to any other, I place them here for the present.

ANTHRIBUS Fabr.

1. *A. NOTATUS*.—Black; head, thorax each side before, and elytra at base and tip, with a gray spot.

Anthrribus notatus Melsh. Catal.

Head entirely gray above: antennæ piceous-black: [249] thorax with an irregular gray spot each side before, connected by a line of the same color, on the anterior margin; about four very small obsolete gray spots, of which one is each side near the

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base, and the others near the middle: elytra with a longitudinal, irregular gray spot at the base of each, a smaller one near the subsutural middle, and a band at tip: tibia with a gray band on the middle: tarsi, first joint gray: venter gray at tip, with three black dots each side.

Length a quarter of an inch.

This species is not common.

[This is *A. lugubris* Oliv., and belongs to *Cratoparis* Schönh.—LEC.]

2. *A. CAPILLICORNIS*.—Blackish; antennæ elongated, very slender; elytra with black spots.

Anthrribus capillicornis Melsh. Catal.

Body brownish-black: head with small dense punctures, plane, not elevated between the eyes: antennæ much elongated, nearly two-thirds the length of the body; basal joint dull rufous at the incisures: thorax with small dense punctures, immaculate, elevated line of the posterior margin parallel with the edge, entire: elytra with punctured striæ; interstitial lines with quadrate, velvet black spots: tibia with an obsolete gray band.

Length three-twentieths of an inch.

The antennæ are very long and slender; but in other respects they resemble those of the neighboring species.

[This is *A. coffeæ* Fabr., and belongs to *Aræcerus* Schönh.—LEC.]

3. *A. 4-NOTATUS*.—Blackish; a humeral spot and common band, dull rufous.

Anthrribus 4-notatus Melsh. Catal.

Head with dull yellowish hair: a little elevated [250] between the eyes: antennæ shorter than the thorax, piceous at base: thorax slightly varied with the yellowish hair; punctures rather large; line of the posterior margin, nearly parallel to the edge, entire: elytra with striæ of large punctures; a dull rufous, irregular, humeral spot, and an abbreviated common band of the same color behind the middle; on the posterior declivity are several somewhat elevated tubercles, of which the superior is largest: tibia annulate with testaceous, more obvious on the posterior pair.

1826.]

Var. a. Abbreviated band of the elytra grayish.

Length more than three-twentieths of an inch.

[This is *A. bimaculatus* Oliv., and belongs to *Tropideres* Schönh.—LEC.]

4. *A. LIMBATUS*.—Testaceous; rostrum short; striæ of the elytra subacute, with small punctures.

Anthrribus limbatus Melsh. Catal.

Body rufo-testaceous, with short pale ochreous hair: front a little convex: rostrum short: antennæ rufous: thorax with the line of the posterior margin prominent, a little undulated, approaching the posterior edge in the middle; elytra, striæ narrow, punctures not large: beneath dusky: feet rufous.

Length three-twentieth of an inch.

[Belongs to *Brachytarsus*.—LEC.]

5. *A. ALTERNATUS*.—Robust; elytra with series of alternate gray and black spot.

Body short and thick, densely hairy, brownish-cinereous: head plane, not prominent between the eyes: antennæ moderate, pale rufous, three last joints fuscous: thorax with a few black spots; elevated line of the posterior margin not prominent, placed near, and parallel to the posterior edge: elytra with punctured [251] striæ, alternate interstitial lines, with alternate black and gray spots: feet rufous; thighs dusky; tibiæ with about two dusky bands.

Length three-twentieths of an inch.

This may readily be distinguished from *A. capillicornis*, by the much shorter antennæ, and more robust form of body.

[Also a *Brachytarsus*.—LEC.]

6. *A. VARIEGATUS*.—Varied, with blackish and dull yellowish; elytra, each with two larger spots.

Anthrribus variegatus Melsh. Catal.

Body dull ochreous, varied with blackish, with very short hair: head plane, dusky, paler towards the tip: antennæ moderate, pale rufous, three terminal joints fuscous: thorax much varied with blackish, which does not extend on the anterior margin: elytra with hardly obvious striæ, with many small orbicular, blackish spots, and two larger spots on each, of which one is near the sutural base, and the other rather beyond the

middle, near the suture : feet pale rufous : thighs blackish in the middle.

Length more than one-tenth of an inch.

The two spots of each elytron are sometimes united by an intervening blackish sutural line.

The species is not uncommon, and I have found it on the "smut" of wheat. Mr. Lea took eighty individuals from six heads of wheat.

[Subsequently described by Schönherr as *Brachytarsus obsoletus*.—LEC.]

7. *A. TOMENTOSUS*.—Body short, blackish, tibiæ rufous.

Anthribus tomentosus Melsh. Catal.

Body robust, short, dark reddish-brown, covered by short, yellowish-cinereous hair : head on the vertex [252] and between the eyes a little convex : antennæ rufous, at tip fuscous : thorax rather convex transversely in the middle, a little depressed before the base ; posterior angles acute : elytra with punctured striæ, immaculate : tibiæ rufous ; terminal joint of the tarsi blackish.

Length less than one-tenth of an inch.

This species does not appear to be common. It is much smaller than either of the preceding.

[Described by Schönherr as *Brachytarsus brevis* —LEC]

ATTELABUS Fabr. Dej.

1. *A. PUBESCENS*.—Dull rufous, with short yellow down.

Attelabus pubescens Melsh. Catal.

Body above dull rufous, the whole surface covered with thick set, somewhat matted, short yellowish down : head with very small punctures at base, and large ones at tip ; an elevated frontal longitudinal line : rostrum much contracted between the antennæ, dilated before : thorax with an indentation each side of the middle : elytra striate, and with irregular punctures : venter nearly naked : feet naked, bright rufous.

Length about one-fifth of an inch.

This species is not uncommon. Dr. Melsheimer found it on the leaves of the *Corylus americana*.

[This was previously described as *A. rhois* Boheman.—LEC.]

2. *A. SCUTELLARIS*.—Black ; antennæ and tarsi rufous ; scutellum white.

1826.]

Body deep black, much punctured: head short behind the eyes, with distant punctures, more dense on the rostrum: antennæ rufous: thorax with numerous [253] dense punctures: scutel white: elytra slightly hairy, with punctured striæ; the interstitial lines crenate: feet piceous: thighs with a slight angle on the inferior middle: tarsi rufous.

Length one-tenth of an inch.

I obtained two specimens on the *Kalmia latifolia* in July. It is a small species.

[Is the type of *Piazorhinus* Schönh.—LEC.]

APION Herbst.

1. *A. ROSTRUM*.—Black; thoracic punctures large, dense; an impressed line, and punctures between the eyes.

Rhynchites rostrum Melsh. Catal.

Body entirely black: vertex impunctured: front with large punctures, and a longitudinal impressed line; an impressed longitudinal line between the antennæ: thorax with large, concave, close set punctures; an impressed, abbreviated line on the middle of the posterior submargin: elytra striate, the striæ rather wide, punctured, interstitial lines flat topped with a single series of small hairs.

Length from the tip of the rostrum less than three-twentieths of an inch.

This is a very abundant species. Dr. J. F. Melsheimer found it on the leaves of the *Robinia pseudacacia*; and Dr. Harris of Milton, Massachusetts, informs me that it occurs in all its stages in the seed vessels of the wild indigo, (*Baptisia tinctoria*), in the months of August and September. I have also taken it in plenty on that plant. It seems to be allied to [254] the *A. nigrum* Herbst., but it does not agree with his figure, nor sufficiently well with his description.

[Afterwards described as *A. Sayi* Sch.—LEC.]

BRACHYCERUS Oliv. Fab.

B. HUMERALIS.—Body unequal, with punctures furnishing small hairs; humeral angles advanced.

Inhabits Arkansa.

Body black, punctured, and with minute punctures furnishing
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short, robust, filiform, white remote hairs: head transversely indented at the base of the very short rostrum, and with a very profoundly impressed abbreviated frontal line: antennæ, terminal joint oval, acute: thorax inequal, widest in the middle, punctures dilated, preceded each side by small tubercles; anteriorly profoundly excavated, for the reception of the proboscis: elytra with double series of dilated punctures, each puncture preceded by an obtuse, slightly elevated tubercle, and each double series of punctures above separated by a slightly elevated interstitial line: humeral angles projected forwards, and embracing the lateral base of the thorax; obtuse at tip, and rugged.

Length seven-twentieths of an inch.

Male more than one-fifth of an inch.

Not uncommon near the head waters of the Arkansa river; where I obtained a few specimens, when with Major Long's party.

It is remarkable by the profound excavation in the anterior face of the trunk, for the reception of the rostrum; the antennæ also do not perfectly agree with [255] those of the genus; these and other distinctions would authorize the formation of a new sub-genus, which may be named ———.

[The type of *Lithodus*; afterwards named *Thecesternus* by Say; ante 1, 267.—LEC.]

BOSTRICHUS Fabr. [TOMICUS Latr.]

1. B. EXESUS.—Rufous; elytra excavated at tip, each six or eight-toothed.

Bostrichus exesus Melsh. Catal.

Body with short, numerous, ochraceous hairs: head ferruginous, with numerous small elevations: antennæ, club rather large: thorax ferruginous, rough, with numerous elevated points before; behind with rather distant punctures: elytra darker rufous than the thorax, with punctured striæ; punctures large, transverse; posterior declivity excavated, with large punctures, and armed on each side with six or eight teeth; the first and third being sometimes obsolete, the fifth a little larger.

Length more than one-fifth of an inch.

Eats a straight, zig-zag, or waved passage between the bark and wood of the yellow pine, (*Pinus mitis* Michaux,) when cut 1826.]

down or decaying: they are numerous, and many die when perfect, being unable to cut a passage through the bark.

[Previously described by Germar as *T. calligraphus*.—LEC.]

2. *B. FASCIATUS*.—Blackish; thorax at base and band on the elytra, ferruginous.

Bostrichus fasciatus Melsh. Catal.

Body brownish-black: thorax rough before, with slightly elevated rugæ, and with a few hairs; behind glabrous, impunctured, and pale ferruginous: elytra [256] destitute of striæ, punctures obsolete; basal half pale ferruginous; sutural region dusky; posterior declivity hairy, slightly truncated, towards the suture, indented.

Var. a. Band of the elytra occupying the greater portion of the surface, and of a clay color. From Sinipuxent.

Length more than one-tenth of an inch.

[Belongs to *Corthylus* Er.—LEC.]

3. *B. XYLOGRAPHUS*.—Rufous; elytra with series of punctures and short points on the posterior declivity.

Bostrichus xylographus Melsh. Catal.

Body somewhat polished, a little hairy, rufous: thorax rugous to the middle, on the centre of which is an obtuse, hardly raised tubercle, behind which the surface is smooth, with a few very small punctures: elytra with series of slightly impressed punctures, the interstitial lines with minute punctures, furnishing hairs; posterior declivity not truncate, but with small denticulations on the interstitial lines.

Length much less than three-twentieths of an inch.

This insect is abundant in forests of the pine, (*Pinus mitis* Mx.,) to which it is very destructive. Immediately beneath the bark, on the wood, it excavates a rectilinear groove, with short, equal, lateral grooves at right angles with the preceding.

It varies considerably in size.

4. *B. POLITUS*.—Rufous, with rather long hair; elytra entire.

Apate politus Melsh. Catal.

Thorax with elevated rather distant points before, [257] gradually disappearing towards the base: elytra punctured, punctures not regular in series; tip simple: feet yellowish: tibiae narrowed at tip.

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Length more than one-tenth of an inch.

[Belongs to *Xyloterus*.—LEC.]

5. *B. PINI*.—Dark chestnut; elytra excavated at tip, each about four toothed.

Bostrichus typographus }
 " *pini* } Melsh Catal.

Body somewhat hairy, chestnut brown: head with minute elevated points: antennæ pale rufous: thorax punctured, more particularly hairy before and on each side; before the middle, with numerous small elevated points, more acute towards the anterior margin: elytra more particularly hairy each side, with striæ of transverse punctures; interstitial lines impunctured; tip truncated obliquely, and excavated; the exterior edge on each side with four denticulations, of which the second from above is the largest, and the inferior one is smallest and most acute; there are sometimes two very small ones above, near the suture.

Length three-twentieths of an inch.

This species is very closely allied to *B. exesus*. It is very destructive to many species of pine. Mr. Z. Collins informs me that it depredates on the larch, (*Pinus pendula*? Aiton.) Dr. J. Mease recently exhibited to me some sections of limbs of the Silver pine (*Pinus strobus*) trees, which decorate the public squares of this city, now discovered to be seriously injured by the attacks of this insect.

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HYLURGUS Latr.

H. DENTATUS.—Head plane; body reddish-brown; elytra with impressed, punctured striæ.

Head blackish, with short hairs: antennæ rufous: thorax blackish, passing into dull rufous at base; with numerous hairs rather shorter than those of the head; punctured: elytra dull rufous, with numerous short hairs; striate, the striæ deeply impressed, and giving the prominent basal edge a dentate appearance; interstitial lines rough, with raised points, which are more prominent and destitute [distinct?] towards the tip; beneath dark reddish-brown: feet rufous.

Length nearly one-tenth of an inch.

Resembles the *frontalis* Fabr.; but the head is destitute of spines, and the elytra are less prominently aculeate. I have re-1825.]

cently received an individual from Dr. T. W. Harris of Milton, Massachusetts.

[I have a species of *Hylesinus* which agrees with this description, but the elevated punctures are hardly more distinct at the tip. *Phleotribus liminaris* also agrees, except that the front is concave with two distant small acute tubercles.—LEC.]

APATE Fabr.

A. PUNCTATUS.—Black-brown: posterior declivity of the elytra carinate on the exterior submargin.

Apate punctatus Melsh Catal.

Body confluent punctured: head rough: antennæ piceous, three exterior joints yellowish, decidedly transverse: thorax before rough, with elevated, thick points, which disappear towards the base, and are there supplied by discoidal punctures: elytra with large, impressed punctures, which can hardly be traced into a series; tip rather abruptly declining, [259] with prostrate yellowish hairs, and a carinate line on the exterior submargin.

Length more than three-twentieths of an inch.

CLYPEASTER And. Latr.

C. FASCIATUS.—Thorax yellowish, with a dusky disk; elytra black, with a yellowish band.

Body rather oblong-oval, depressed, with fine prostrate hairs: antennæ dusky at tip: thorax honey-yellow, blackish on the disk; anterior margin regularly rounded; posterior margin but little undulated: elytra very obtusely rounded at tip, almost truncate, black, with a honey-yellow band a little beyond the middle, and the edge of the tip somewhat dull yellowish: beneath dusky: feet honey-yellow.

Var. a. Elytra honey-yellow, with a paler band.

Length about one-twentieth of an inch.

I refer this little insect to the present genus, by its form of body. It is very like a small *Cassida*, and the head is equally concealed by the clypeiform thorax.

[The name *Clypeaster* being preoccupied for a genus of Echinoderms, I have given the name *Sacium* to this genus; Proc. Acad. Nat. Sci., Phila., 6, 144.—LEC.]

CERYLON Latr.

C. CASTANEUM.—Reddish-brown, punctured, palpi bright yellowish; elytra striate.

Inhabits the United States.

Body reddish-brown, punctured, glabrous: antennæ paler: palpi pale reddish-yellow, polished: thorax widely and slightly indented at base, each side of the [260] middle; punctures numerous distinct, posterior angles rectangular: scutel transversely linear: elytra with the striæ impressed, punctured.

Length rather more than one-fifteenth of an inch.

This species is not uncommon. I have found it in various parts of the Union, and as far west as Missouri.

MYCETOPHAGUS Fabr.

1. *M. PUNCTATUS*.—Blackish; elytra rufous, with a large dot; scutel and tip black.

Mycetophagus punctatus Knoch, J. F. Melsheimer.

Body blackish-piceous, with short hairs: antennæ and mouth piceous: thorax immaculate, with a small indentation each side, on the basal margin: scutel black: elytra with punctured striæ; rufous; region of the scutel black; a large black spot on the middle, confluent with the lateral margin, and extending on that part to the humerus, and in the opposite direction to a large, subterminal black band; a small fulvous tip.

Length more than one-fifth of an inch.

2. *M. FLEXUOSUS*.—Blackish; elytra rufous, undulated with black.

Mycetophagus flexuosus Melsh. Catal.

Body blackish-piceous, with short hairs: antennæ, terminal joint fulvous: thorax indented each side on the posterior margin: elytra with punctured striæ, yellowish rufous; a transverse quadrate black spot on the region of the scutel; a small rounded one on the [261] humerus; a large irregular one on the exterior middle, sometimes not interrupted by the suture, and a large black spot on the tip, enclosing a small fulvous spot; beneath pale piceous.

Length more than three-twentieths of an inch.

Closely allied to the preceding, but is much smaller, and the markings are always different.

3. *M. 6-PUNCTATUS*.—Blackish; elytra with three spots of yellowish hairs.

Mycetophagus 6-punctatus Melsh. Catal.

Body blackish-brown, with short yellowish sericeous hairs: antennæ with the three last joints larger: labrum yellowish: thorax with an abbreviated, obsolete longitudinal line on the posterior margin, each side: elytra with regular series of hairs, more obvious towards the exterior margin; a dense group of hairs on the middle of the base, forming a spot on that part; a subsutural one is before, and another behind the middle: beneath piceous: tarsi paler.

Length rather less than one-tenth of an inch.

Very distinct from the preceding.

[Belongs to *Litargus* Er.—LEC.]

4. *M. DIDESMUS*.—Blackish; elytra with two bands and obsolete tip, pale rufous.

Body blackish-piceous, with short yellowish-sericeous hairs: head piceous: antennæ somewhat clavate: thorax with the posterior angles rounded: elytra with a pale rufous, slightly oblique band near the base, and another beyond the middle; tip obsoletely pale rufous: feet pale.

Length much less than one-tenth of an inch.

[Also a *Litargus*.—LEC.]

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LYCTUS Fabr.

1. *L. REFLEXUS*.—Chestnut; thorax punctured, slightly narrower behind; elytra striate.

Inhabits Pennsylvania.

Lyctus americanus? Melsh. Catal.

Head with numerous, large, deep punctures; a longitudinal rather wide indented line each side, near the eyes: antennæ rather robust, shorter than the thorax: thorax with large numerous punctures, gradually a little narrowed behind, without any impressed line or elevation; lateral edge dusky: scutellum convex, rounded: elytra with somewhat large striæ, in which are large punctures; terminal edge reflected.

Length three-twentieths of an inch.

[Belongs to *Pycnomerus* Er.—LEC.]

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2. *L. GEMINATUS*.—Thorax longitudinally indented; striæ of the elytra geminate.

Inhabits Pennsylvania.

Body depressed, dark reddish-brown, with short, prostrate hairs: head punctured: antennæ rather robust, with short hairs: thorax gradually a little narrowed behind, with numerous large punctures; middle of the disk widely indented longitudinally: scutel convex, rounded: elytra depressed above; impressed striæ placed in pairs; interstitial lines punctured.

Length three-twentieths of an inch.

[This is a species of *Bothrideres* Er., but very different from *B. geminatus* Hald., which was subsequently described as *B. exaratus* Mels.—LEC.]

3. *L. HÆMATODES*.—Thorax with two indented lines; elytra with large, deep punctured striæ.

Lyctus hæmatodes ? Fabr.

Body dark reddish-brown, a little depressed: head [263] with large, not profound punctures; an indented longitudinal space each side, between the antennæ: antennæ short, robust: thorax with large, somewhat deep punctures, and two dilated, parallel, indented lines on the disk: margin a little elevated, in the middle contracted; elytra with dilated profound striæ or grooves, in which are dilated, not deeply impressed punctures; interstitial lines narrow, prominent.

Length less than three-twentieths of an inch.

This certainly approaches the description of *L. hæmatodes* Fabr., and probably is the same; but as he describes that species to be carinated on the thorax, I have made out the above description, that those who have an opportunity, may compare.

I obtained many specimens under loose bark of the yellow-pine, on Chinquoteague Island, in October.

The three species above described, correspond with the characters of the genus *Bitoma* of Herbst, in having the antennæ shorter than the head and thorax, and the mandibles not very obviously projecting; yet they appear to me to be very properly retained in the present genus.

[A species of *Pycnomerus*.—LEC.]

COLYDIUM Fabr.

1. *C. PARALLELOPIPEDUM*.—Head with two tubercles ; thorax with two elevations, and an elevated line each side.

Colydium parallelopedum Melsh. Catal.

Body dull rufous ; glabrous, punctured : head with an indented, transverse line, and two hardly prominent [264] tubercles, often obsolete : thorax quadrate, rather longitudinal ; two tubercles before, which gradually dilate and disappear behind ; lateral submargin, with an elevated line hardly attaining to the base, and extending on the anterior edge, so as to join the opposite line ; exterior edge a little reflected ; anterior angles prominent : elytra with hardly impressed, punctured striæ, becoming small behind : feet pale rufous.

Length less than one-fifth of an inch.

This seems to be allied to *C. bidentatum* Fabr., of South America.

[Belongs to *Aulonium* Er.—LEC.]

2. *C. LONGIUSCULUM*.—Dark brownish ; antennæ and feet rufous ; thorax punctured.

Colydium longiusculum Melsh. Catal.

Body linear, slender, elongated, dark reddish-brown : head blackish, eminently punctured ; nasus dull rufous : antennæ bright rufous : thorax cylindric, long, minutely punctured, blackish : elytra with large, deep striæ, in which are transverse punctures ; interstitial lines convex : beneath blackish : feet bright rufous.

Length one-fifth of an inch.

3. *C. LINEOLA*.—Dark brownish ; antennæ and feet rufous ; thorax with an impressed line.

Colydium lineola Melsh. Catal.

Body linear, slender, elongated, dark reddish-brown : head blackish, dull rufous before, minutely punctured : antennæ rufous : thorax cylindric, long, minutely punctured, blackish, with a very obvious, longitudinal, acutely impressed line on the back : elytra [265] with rather large, deep striæ, and transverse punctures, which crenate the interstitial lines : beneath rufous.

Length less than one-fifth of an inch.

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Resembles the preceding, but is smaller, and is readily distinguished by the impressed line of the thorax.

LATRIDIUS Herbst.

L. PUBESCENS.—Reddish-brown; thorax each side irregularly denticulated.

Inhabits Pennsylvania.

Latridius pubescens Melsh. Catal.

Body irregularly punctured, with numerous scattered hairs: thorax on the lateral edge having eight or nine irregular denticulations: elytra without any series of punctures or impressed line; hairs of the lateral margin prominent.

Length nearly three-twentieths of an inch.

Very different from the species which I described under the name of *L. 8-dentatus*, which has regular series of punctures on the elytra.

[Belongs to *Paratenetus*, and seems to be *P. punctatus* Spin., Mon. Cler. 2, 116; tab. 44, fig. 5.—LEC.]

SILVANUS Latr.

S. DENTATUS.—Thorax 6-toothed each side, and with a double indentation behind.

Latridius dentatus Melsh. Catal.

Body reddish-brown, depressed, punctured; punctures small: head with a reflected edge each side, [266] extending above the eye, and somewhat more prominent over the insertion of the antennæ: thorax with two dilated, parallel, longitudinal indentations behind the middle, and not reaching the base; lateral edge with six rounded teeth; the anterior and posterior ones more acute: elytra with about four slightly elevated lines, sub-sutural one obsolete.

Length three-twentieths of an inch.

[This is the type of *Nausibius*, and was previously described under the same specific name by Marsham and Fabricius; it has been carried by commerce over the entire globe. The genus is still of doubtful position.—LEC.]

SYNCHITA Hel.

1. *S. 4-GUTTATA*.—Blackish-brown; thorax canaliculate; elytra each with two rufous spots.

Inhabits Arkansa and East Florida.

Body with short curved hairs: head at tip tinged with rufous: thorax with a longitudinal groove each side on the submargin, continued on the anterior margin; lateral margin a little concave, the edge denticulated: elytra with four dilated grooves, containing double series of punctures, and a marginal groove, containing but a single series of transverse punctures; interstitial lines slender; each elytron with an oblong longitudinal dull rufous spot at base, and another beyond the middle.

Length less than three-twentieths of an inch.

I obtained three specimens when with Major Long's party in Arkansa, and several occurred in Florida.

[Belongs to *Ditoma* Latr.—LEC.]

2. *S. GRANULATA*.—Thorax granulated; elytra with granulated interstitial lines.

Inhabits East Florida.

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Body blackish-brown: head granulated, somewhat rufous before: antennæ rufous, joints of the capitulum not distinctly separate: thorax covered with granulations; without grooves; lateral edge denticulated: elytra with regular series of elevated granulated striæ, and intervening, narrower, smooth ones.

Length less than three-twentieths of an inch.

Very distinct from the preceding. I obtained but a single specimen in Florida, and Mr. Nuttall presented me with three which he brought from Missouri.

CUCUJUS Fabr.

1. *C. BIGUTTATUS*.—Dark reddish-brown; antennæ more than half the length of the body; elytra with a large spot; thorax with a lateral impressed line.

Cucujus biguttatus Melsh. Catal.

Head with numerous small punctures: thorax with numerous small punctures, not obviously crenate on the lateral edge, with an impressed line on the lateral submargin; the margins slightly

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paler than the disk: scutell pale: elytra with acute impressed striæ; a rather large, oval, pale spot somewhat before the middle, chiefly included between the second and third striæ: beneath rufous.

Length more than one-tenth of an inch.

This is a common insect. It is so much like the *C. bipustulatus* of Panzer, that we find some hesitation in admitting it to a distinct rank. That species, however, judging from Panzer's figure, has the lateral [268] edges of the thorax obviously crenate, and the pale elytra spot is much larger than in the present species.

[This species belongs to *Læmophlæus*.—LEC.]

2. *C. MODESTA*.—Reddish-brown; antennæ more than half the length of the body; thorax with a lateral impressed line; elytra with punctured striæ.

Head and thorax reddish-brown, with numerous small punctures; the latter somewhat rounded, hardly narrower behind, with an obvious impressed longitudinal line on each lateral submargin: antennæ considerably more than half the length of the body: elytra rather shorter than the abdomen, pale testaceous, immaculate; striæ obtuse, hardly impressed, with large punctures: beneath reddish-brown.

Length more than one-twentieth of an inch.

This small species occurs in East Florida, and was obtained by Mr. Maclure's party. It is about equal in size to *C. testaceus* Fabr. of Europe, but is a very different species. In the form of its antennæ, this species approaches the genus *Brontes*.

[Also a *Læmophlæus*.—LEC.]

LAMIA Fabr.

1. *L. MACULA*.—Brownish; sides of the thorax and spot on the elytra gray.

Cerambyx macula Melsh. Catal.

Head brownish above, grayish before, and gray on the cheeks: antennæ a little longer than the body, dull rufous; the joints blackish at their tips: thorax slightly unequal, with very obtuse, obsolete tubercles; lateral spine none, substituted by a hardly elevated tubercle; above brownish, with two longitudinal, [269] 1826.]

distant blackish lines; sides beneath the lines gray: elytra punctured; each with six lines of minute black spots, one of which is at the suture, and another on the lateral margin; a large triangular gray spot on the lateral middle, rarely reaching the suture: thighs clavate, black: tibiæ dull rufous, annulate with dusky.

Length three-tenths of an inch.

This species frequently occurs.

[Belongs to *Leptostylus*, Lec. Journ. Acad. Nat. Sc. Phila. 2d ser. 2, 168.—Lec.]

2. *L. GUTTATA*.—Elytra with minute elevated points, and about six obsolete gray spots.

Lamia 6-guttata Melsh. Catal.

Body brownish: antennæ a little longer than the body, obscure rufous; the joints dusky at their tips: thorax a little inequal, with hardly elevated, very obtuse tubercles; lateral spine none, being substituted by a slightly elevated tubercle: elytra punctured, each with six lines of minute black spots, which are each elevated, reflected, and acute; about six obsolete gray spots on each, of which one is sub-marginal behind the humerus, a minute one is upon the middle, and the third is small, subsutural, and behind the middle: thighs clavate, blackish: tibiæ dull rufous, annulate with dusky.

Length nearly seven-twentieths of an inch.

This species resembles the preceding, but it may be distinguished by the want of the large gray lateral spot of the elytra, and more essentially by being armed with reflected points on the elytra. It also resembles the *L. aculifera* nobis, but is destitute of the whitish elytral band, and the general form of the body is different from either, being less robust.

[A species of *Leptostylus*, which I have failed to identify; it seems to be most like *L. commixtus*.—LEC.] [270]

3. *L. DASYCERUS*.—Antennæ hairy beneath; elytra with minute elevated points.

Body light brownish-cinereous: antennæ a little longer than the body, with rather long, close-set hairs on the inferior side: thorax without obvious tubercles: with two obsolete, longitudinal, approximate, brown lines: elytra with a common arcuated black line, extending from one humerus to the other; numerous,

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rather large, irregular punctures; a few series of distant elevated black points; an obsolete common white band behind the middle: thighs clavate: tibiæ not annulated.

Length three-twentieths of an inch.

This may be distinguished from either of the before mentioned species; by the pendant hair of the inferior side of the antennæ, &c. The white band is sometimes altogether wanting; and if very closely examined, the black points of the elytra will be found to consist of fasciculated hairs.

[This is the type of *Ecyrus* Lec., Journ. Ac. Nat. Sc. Phila., 2nd ser. 2, 160.—LEC.]

4. L. ALPHA.—Elytra each with a white oblique line extending backwards from the middle of the suture.

Cerambyx analis? Melsh. Catal.

Body dull reddish-brown: head longitudinally deeply indented on the vertex: antennæ considerably longer than the body; incisures blackish: thorax above, destitute of tubercles, but with three small black spots, placed 2, 1; a short tubercle, abruptly acute at tip, each side before the posterior angles, which are emarginate; posterior margin with a transverse indented line: scutel blackish: elytra irregularly [271] punctured; a few black dots, consisting of tufts of hair, chiefly along the suture; region of the scutel dusky; a blackish marginal abbreviated line from the humerus; a blackish line margined with gray, extends from the middle of the suture, obliquely backwards, towards the exterior margin.

Length nearly three-tenths of an inch.

This species is not very rare in Pennsylvania; I also obtained one in the N. W. Territory.

[Belongs to *Liopus*.—LEC.]

5. L. FACETA.—Blackish; elytra yellowish-white, with four blackish bands.

Antennæ nearly twice as long as the body: thorax equal, with an acute spine each side, near the posterior angles, which are emarginate; a gray mark behind the middle, in the form of a W: elytra yellowish-white; a blackish band at base, decurrent behind along the suture; a narrow oblique band before the middle, not
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reaching the suture ; a broad band rather behind the middle, and another at tip : feet ochreous.

Length three-twentieths of an inch.

I have found this pretty little species on the common Juniper, early in July.

[Also a *Liopus*.—LEC.]

6. *L. SPINOSA*.—Covered with short, prostrate gray hair ; antennæ gray and black.

Saperda spinosa Melsh. Catal.

Head deeply indented between the antennæ : labrum piceous : antennæ longer than the body, black, each joint gray at base : thorax cylindrical, immaculate ; an acute, slightly recurved spine near the posterior angles ; elytra with numerous small impressed [272] punctures, at tip truncated : venter with a series of almost concealed black spots on each side.

Length more than three-tenths of an inch.

The general form is that of a *Saperda* ; but, agreeably to the generic characters, the spines of the thorax determine the affinity.

[I formed a special genus *Dectes* for this insect, but it seems to be scarcely distinct from *Liopus*.—LEC.]

SAPERDA Fabr.

1. *S. CINGULATA*.—Brownish-cinereous, with obsolete fulvous dots ; elytra with a dull cinereous band.

Saperda cingulata Melsh. Catal.

Body robust, covered with short prostrate hairs : head varied with fulvous, a slender fulvous line around the eye, a frontal indented line : antennæ much longer than the body, but not twice as long : thorax obviously broader than long, slightly varied with fulvous : elytra with numerous, obsolete, small fulvous dots ; at base and tip broadly reddish-brown ; a broad cinereous, somewhat undulated band on the middle.

Length eleven-twentieths of an inch.

This is not common. Occurs on the Hickory.

[Belongs to *Oncideres*.—LEC.]

2. *S. NIGRA*.—Entirely black, immaculate ; elytra irregularly punctured.

Saperda nigra Melsh. Catal.

Head indented between the antennæ, minutely granulated : antennæ much longer than the body : thorax minutely granulated ; a transverse impressed line on the anterior and posterior margin : elytra very minutely granulated, and with numerous, irregularly placed, rather distant, profound punctures ; tip simple : [273] anterior thighs laterally arcuated, their tibiæ perpendicularly arcuated.

Length three-tenths of an inch.

The anterior thighs and tibiæ are very obviously arcuated.

[A species of *Dorcaschema*.—LEC.]

3. *S. FUSCIPES*.—Hairy, black ; thorax with two black vittæ ; feet rufous.

Saperda fuscipes Melsh. Catal.

Body with rather long cinereous hair, punctured : head not indented between the antennæ : labrum testaceous : thorax as long as broad, irregularly and deeply punctured ; two longitudinal black vittæ, occasioned by the complete denudation of the parts : elytra with numerous, close-set, irregularly disposed, deeply impressed punctures ; at tip rounded : feet dull rufous.

Length two-fifths of an inch.

4. *S. 3-LINEATA*.—Densely covered with short prostrate hairs ; antennæ naked, black.

Saperda cinerea, } Melsh. Catal.
S. 3-lineata, }

Body densely clothed, with short, prostrate, greenish-cinereous hairs : head a little tinged with yellowish, with a longitudinal line : antennæ quite naked and black : thorax tinged with a little yellowish, breadth hardly exceeding the length ; a longitudinal black line before the middle : elytra immaculate, rather acutely terminated.

Length two-fifths of an inch.

[Belongs to *Hetæmis* Hald ; previously described as *S. cinerea* Oliv.—LEC.]

5. *S. VESTITA*.—Very hairy ; brownish, varied with grayish ; antennæ as long as the body. [274]

Body in every part with numerous long erect hairs, and shorter ones between them ; numerous punctures placed irregularly : head
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not indented: labrum piceous: thorax with a short tubercle on each side: elytra rounded at tip.

Length less than one-fourth of an inch.

This species might perhaps be referred to the genus *Lamia*.

[Belongs to *Eupogonius* Lec., which is allied to, and perhaps the same as *Callia* Serv. There is another *S. vestita* Say, ante 1, 193.—LEC.]

6. *S. OBLIQUA*.—Elytra with four oblique, elevated lines.

Body yellowish-brown, or pale ferruginous: head with an impressed line; a broad fuscous line behind each eye: antennæ rather longer than the body, gray, incisures fuscous; first joint rather thick, hairy, fuscous: thorax cylindrical, with four fuscous vittæ: elytra with numerous, subinequal, irregularly disposed punctures; four elevated, obtuse, parallel, oblique lines, commencing at the exterior submargin, and proceeding backward to the suture, the anterior originating on the humerus; tip mucronate.

Length three-fifths of an inch.

This interesting species was brought by Mr. Thomas Nuttall from Missouri.

STENOCORUS Fabr.

1. *S. RIGIDUS*.—Ferruginous; antennæ robust, spinous beneath.

Body rather slender, ferruginous, with very short hairs: head, space between the antennæ more elevated; a longitudinal impressed line: mandibles at [275] tip black: antennæ very robust, hairy, a little longer than the body; with numerous spines beneath, particularly on the third or fourth basal joints: thorax rounded, a little narrower before, widest behind the middle: elytra very pale ferruginous; without any striæ or punctures, instead of which, are very slight depressions, furnishing very short hairs; on the middle of each elytron is a longitudinal obvious nervure; tip acutely rounded: thighs, anterior ones more robust than the posterior pairs.

Length more than three-fifths of an inch.

The spines on the inferior surface of the antennæ, are not confined to the tips of the joints, as in some species, but occupy

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the surface from base to tip; they are obsolete on the first, second, and terminal joints. The species is rare.

[Belongs to *Sclerocerus*, and is the male of *S. linearis* Harris, Trans. Hartford Soc. Nat. Hist. 85.—LEC.]

2. *S. QUADRIGEMINATUS*.—Pale brown; elytra each with two geminate spots; basal ones equal.

Body entirely pale yellowish-brown: antennæ hardly more obviously hairy on the basal joints than on the others: thorax with two black tubercles above, rather before the middle, placed transversely, and a short spine each side on the middle of the length of the thorax: elytra rather paler than the thorax; each with two double, somewhat elevated bright yellow, abbreviated very short lines; the two members of the basal spot equal, the other spot is placed on the middle, and its inner member is shorter than the exterior one; tip two-spined, the exterior spine longest. intermediate and posterior thighs two-spined at tip, the inner spine rather longest. [276]

Length nine-tenths of an inch.

This insect is not uncommon. It is related to *S. 4-maculatus* Fabr., *S. maculosus* Fabr., *S. didymus* Oliv., all of South America, and *S. stigma* Oliv., of Cuba. It differs from the first, to which it is more closely related than to either, by the equality of the two members of the basal double spot of the elytra, and by having only two tubercles on the back of the thorax; from the *maculosus* it may be distinguished by its greater size and simple pale color; from *didymus* by its smaller size, and not having the third and fourth joints of the antennæ more hairy than the other joints; from *stigma* by having the basal spot of the elytra double.

[Belongs to *Eburia*.—LEC.]

CLYTUS Fabr.

1. *C. CONFUSUS*.—Black, with spots of yellowish-white; feet rufous, tarsi and knees black.

Head covered with prostrate, short yellowish hair, excepting a longitudinal line on the vertex: antennæ two-thirds the length of the body, black: thorax covered with hair, excepting a dilated dorsal vitta, and a narrow obsolete longitudinal line each side: 1826.]

scutell covered with white hair: elytra with irregular, unequal spots of short yellowish-white hair; of these spots there is in many specimens, a series at the suture, another on the middle, and a third on the exterior submargin; but in other specimens the series are obsolete, and in some, many of the spots are confluent; [277] tip truncate, emarginate: wings blackish: feet rufous; knees, tarsi, and tip of the tibia black.

Length about seven-twentieths of an inch.

I obtained a small individual several years since in this State, and my brother B. Say took a specimen near Pleasant Mills, New Jersey, and I subsequently obtained another in the N. W. Territory.

[This is the type of *Atimia* Hald., but not being recognized by him, was described as *A. tristis*.—LEC.]

2. *C. ANNOSUS*.—Black, with short gray hairs; a triangular carina between the eyes.

Body black, covered with short, gray, prostrate hair: head with a grooved prominence between the eyes, terminating in a short carina: antennæ but little longer than the thorax: thorax with a naked dorsal vitta: elytra with the hair more densely arranged in some parts, so as to exhibit the appearance of small spots, which are arranged in two bands, in each of which are two spots each side, the second band is on the middle; near the tip are one or two common spots; tip entire.

Length nearly one-half of an inch.

I received this species from Mr. T. Nuttall, who brought it from Missouri.

[Unknown to me.—LEC.]

CALLIDIUM Fabr.

C. CUCUJIFORME.—Pale yellowish; thorax a little contracted in the middle.

Callidium cucujiforme Melsh. Catal.

Body depressed: head with a slight rufous tinge: antennæ rather shorter than the body, tinged with rufous: thorax [278] longer than broad, obtusely contracted each side, rather before the middle: elytra irregularly punctured, without elevated

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lines : thighs dilated : pectus with a large discoidal, very slightly indented space on each side.

Length three-tenths of an inch.

[Belongs to *Smodicum*.—LEC.]

LEPTURA Linn. Fabr.

1. *L. SCALARIS*.—Rufous, sericeous; elytra slender, with sericeous triangles along the suture.

Body elongated rufous, more or less covered with golden sericeous; impunctured: head with a transverse indentation before, and a longitudinal indented line; space behind the eyes prominent: antennæ rather more than half the length of the body: thorax with a transverse impressed line before, and another behind: elytra slender, concavely arcuated on the outer edge behind the middle, rounded at tip, considerably shorter than the abdomen; a darker rounded spot on the middle, and an oblong one behind the middle, so arranged as to exhibit two sutural golden-sericeous triangles on each elytron: posterior thighs blackish at tip: tergum longitudinally black in the middle: beneath with brilliant golden sericeous hair.

Length one inch.

For this fine species I am indebted to my friend, Prince Musignano, who obtained it near his summer residence, at Point Breeze, New Jersey. It is much like the *Cerambyx longipes* of Drury, 1, pl. 37, fig. 4, [279] but the thighs are not spinous at tip, as in that species.

2. *L. NIGRELLA*.—Blackish-brown; thorax cylindrical.

Leptura nigra Melsh. Catal.

Body punctured, somewhat pubescent: head with confluent, small punctures; those of the nasus, and labrum sparse: antennæ more than two-thirds the length of the body: thorax cylindrical, very slightly wider behind, punctured like the head; an obtuse, lightly impressed, transverse line on the anterior submargin, and another on the posterior submargin: elytra with very obvious, numerous punctures, which are more particularly confluent near the base; tip a little truncated obliquely: beneath dull silvery sericeous.

Length nearly seven-twentieths of an inch.

I received this species from Dr. J. F. Melsheimer, under the 1826.]

name which I have here given; that of *nigra* being preoccupied. The thorax approaches the form of that of a *Saperda*.

3. *L. PUBERA*.—Black; thorax subglobular; elytra truncate at tip.

Leptura pubera Melsh. Catal.

Body punctured, somewhat pubescent: head with dense small punctures: antennæ rather more than two-thirds the length of the body: thorax convex, with rather large punctures: elytra with numerous, rather large punctures, at tip transversely a little truncated: beneath dull silvery sericeous.

Length three-tenths of an inch.

[280]

This is very different from the preceding in the form of the thorax, as well as in color, &c.

4. *L. CÆRULEA*.—Slender; bluish; feet pale rufous.

Rhagium rufipes Melsh. Catal.

Body slender, punctured: head transversely much indented near the nasus: palpi pale rufous: antennæ situated on a tubercle: thorax with a small tubercle, rather behind the middle on each side; an anterior and posterior, transverse, impressed line: elytra acutely rounded at tip: feet pale rufous; beneath dull plumbeous.

Length rather more than one-half of an inch.

A very pretty little insect, belonging to the genus *Toxotus* of Megerle. The name *rufipes*, is pre-occupied in this genus.

[The type of *Encyclops* Newman, but described by him as *E. pallipes*.—LEC.]

5. *L. SPHÆRICOLLIS*.—Black; thorax contracted on the posterior margin; feet varied with yellowish.

Body with very short hairs, somewhat sericeous: labrum and anterior margin of the nasus yellowish: mandibles and palpi yellowish, at tip piceous: thorax globular in the middle; anterior and posterior margins much contracted: elytra punctured; the punctures large at base, small towards the tip of the elytra: feet yellowish; thighs at tip, and tibia at base, blackish.

Length nearly one-third of an inch.

I received this insect from Mr. Charles Pickering, of Salem, Massachusetts, to whom I returned for it the name of *L. pubera*; but on a strict comparison, I find that by the form of the thorax,

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it is quite different from that species, and much more closely related [281] to the *L. ruficollis* nobis, from which it differs chiefly in the color of the thorax.

ORSODACNA Fabr.

1. *O. TRIPLA*.—Rufous; feet yellowish; thorax dentate each side.

Crioceris asparagi Melsh. Catal.

Body rufous, punctured: head coarsely and confluent punctured; before the antennæ yellow: antennæ with the basal joints yellow at their tips: mandibles black at tip: thorax widest in the middle, with coarse, confluent punctures; lateral edge with about six unequal denticulations, of which the anterior one is yellowish, and forms the anterior angle: elytra with triple series of rather large impressed punctures, and alternate elevated lines: feet yellow; tarsi rufous: venter yellow in the middle.

Length from one-fifth to one-fourth of an inch.

Var. a. Elytra pale; abdomen yellow.

Crioceris flavida Melsh. Catal.

Seems to belong to the genus *Auchenia* of Megerle; but I have not seen the characters of that genus.

[Belongs to *Syneta*.—LEC.]

2. *O. HEPATICA*.—Head black; thorax rufous; elytra brownish.

Head black: palpi and base of the antennæ yellowish: thorax yellowish-rufous, larger before the middle, with scattered punctures; anterior angles rounded: elytra liver color, with numerous, irregularly disposed, rather large punctures: beneath piceous: feet yellowish. [282]

Length less than a quarter of an inch.

This species was brought from the Mississippi region, by Mr. Thomas Nuttall.

DONACIA Fabr.

1. *D. QUADRICOLLIS*.—Brassy green; thorax with the impressed line and lateral tubercle, obsolete.

Head dull green bronze; frontal line very profoundly impressed; no distinct tubercle; lateral lines very distinct and definite: antennæ nearly black; second joint but little shorter than the third: thorax quadrate, very slightly narrower at base; 1826.] 22

densely and confluent punctured; the longitudinal line, as well as the lateral tubercles, indistinct; color brassy-green: elytra a little inequal near the suture; slightly truncated, and not decurved at tip: with regular distinct striæ of punctures: beneath dusky silvery gray: feet dull rufous; posterior thighs with a small tooth; all the thighs a little dusky above.

Length less than two-fifths of an inch.

This species is nearly equal in size to the *palmata* Oliv., which is the *D. anea* of Melsh. Catal.; but that common insect has the dorsal thoracic line and lateral tubercles well defined, the third joint of the antennæ nearly double the length of the second, and the tips of the elytra more profoundly emarginated; the thorax is moreover transverse. I may observe, with respect to the *palmata*, that the male only has the anterior tarsi dilated.

[Previously described as *D. subtilis* Kunze.—LEC.] [283]

2. *D. METALLICA*.—Cupreous; antennæ and feet rufous; second and third joints of the former equal.

Donacia metallica Melsh. Catal.

Body above cupreous, polished: head densely punctured, nearly opaque, with an acute impressed line transversely indented in the middle; tubercles and lateral lines none: antennæ pale rufous; rather short; less than half the length of the body; with short joints, the second and third equal, the fourth nearly equal: thorax convex, gradually a little narrowed to the base, decidedly longer than broad, very highly polished, with very distinct scattered punctures, an impressed, acute line; lateral tubercle obtuse, obvious; small tubercle of the anterior angle distinct from the large tubercle, subacute; posterior submargin indented: elytra, striæ with impressed punctures; a single obsolete indentation passes from the humerus to the suture before the middle; tip much decurved, rounded: beneath greenish silvery: feet pale rufous: posterior thighs with a broad prominent angle.

Length about three-tenths of an inch.

Var. a. Antennæ and feet dusky.

Var. b. Green; antennæ and feet obscure rufous.

The thorax is more convex and polished than in most other species. I have received a specimen from Dr. T. W. Harris, of Milton, Massachusetts.

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[This is *D. sulcicollis* Lac., which name must be adopted, as there is a *D. metallica* previously described by Ahrens.—LEC.]

3. *D. RUFA*.—Dull metallic rufous; front destitute of lateral impressed lines.

Body totally dull rufous, with a metallic gloss, particularly on the elytra: head dusky, almost opaque, with much crowded, very small punctures; no appearance [284] of tubercles; a very distinct, impressed frontal line extending down between the antennæ; no appearance of impressed lines near the eyes: antennæ somewhat paler than the body, and about half the length of the body; third joint distinctly longer than the second: thorax longer than broad, minutely punctured; longitudinal line very distinct, deeply impressed; a transverse impressed line on the posterior submargin; lateral tubercles rather prominent, obtuse; tubercle of the anterior angle distinct from the large tubercle, acute: elytra hardly obviously unequal near the suture; with striæ of punctures; tip decurved, almost truncated, or obtusely rounded: beneath, in a particular light, dull silvery sericeous: feet rufous.

Length more than three-tenths of an inch.

I found this species in company with *palmata*, on the bank of the Schuylkill river.

[Continuation from Vol. 5, 1826, pp. 293—304.]

4. *D. PUSILLA*.—Green; elytra brassy; tibiæ and tarsi rufous; second and third joints of the antennæ equal.

Head brassy-green, very densely and confluent punctured; a well impressed frontal line; lateral lines none; no appearance of frontal tubercles: antennæ short, much less than half the length of the body; second and third joints equal, fourth joint hardly longer; joints dull rufous, blackish at tip: thorax green, a little tinged with brassy, longer than broad, as densely punctured as the head; middle of the anterior edge a little elevated: longitudinal line none; lateral tubercles obvious: elytra brassy-green, a little tinged with cupreous; with striæ of punctures; three long-1826.]

gitudinal indentations near the suture, of which the anterior one is widest and deepest, with a slight impressed line extending obliquely to the base; tip decurved and rounded: beneath green, tinged with brassy: feet rufous: thighs at tip brassy-green, posterior pair with a prominent angle beneath.

Length rather more than a quarter of an inch.

The smallest species I have seen; it occurs in the Middle States, and I have also received a specimen from Dr. T. W. Harris, of Milton, Massachusetts.

5. *D. CONFLUENTA* [CONFLUENS].—Brassy, tinged with cupreous; head with two tubercles; second joint of the antennæ shortest; elytra truncate at tip. [294]

Head rather obscure; a profound frontal line, on each side of which is an oblong tubercle; punctures confluent, small: antennæ not quite half the length of the body, fuscous, first joint metallic, polished, third joint distinctly longer than the second: thorax nearly square, a little narrowed to the base, with very distinct confluent punctures, and a slightly impressed dorsal line; lateral tubercles not prominent; anterior tubercles not distinct: scutel cinereous: elytra with punctured striæ; two subsutural impressed spaces, of which the exterior extends obliquely to the middle of the base; tip hardly decurved, truncated: posterior thighs with a small angle beneath.

Length less than three-tenths of an inch.

I have found this insect in Pennsylvania, and also in Missouri. In some specimens, lateral impressed spaces of the elytra are very distinct, but in general they are not perceptible.

LEMA Fabr.

L. MELANOCEPHALA.—Above rufo-testaceous; head and all beneath black.

Head deep black, unequal; thorax rufo-testaceous, polished, abruptly very much contracted on the middle of each side, presenting the appearance of a profound vertical groove in that part: elytra rufo-testaceous, polished, with almost regular series of impressed punctures: beneath black, immaculate.

Length nearly three-tenths of an inch.

Resembles the *trilineata* Oliv., in form, but it is [295] readi-

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ly distinguished from that well marked insect. It inhabits the N. W. Territory, where it was found by Major Long's party. I also received specimens from Dr. T. W. Harris.

[Unknown to me.—LEC.]

CASSIDA Fabr.

C. BIVITTATA.—Yellowish; elytra with two lines and suture black.

Cassida bivittata Melsh. Catal.

Body sub-orbicular, yellowish, tinged with rufous; margin all round paler: elytra with regular striæ of impressed punctures, those on the margin much larger and blackish; two black vittæ on the middle, of which the exterior one is a little undulated, and the inner one rather shorter; suture black; beneath piceous

Length one-fifth of an inch.

EUMOLPUS Fabr.

1. *E. PINI*.—Brassy, with short whitish hair; antennæ obscure rufous.

Body rather dark brassy polished, punctured, with short whitish hair: head with an impressed longitudinal line on the front: antennæ and palpi dull rufous: thorax, as well as the head, slightly tinged with cupreous: scutel cupreous: elytra destitute of striæ or lines: beneath reddish-brassy, more densely covered with the whitish hair than the superior surface: feet not so thickly hairy, dark rufous.

Length seven-twentieths of an inch.

I received this insect from Dr. J. F. Melsheimer, [296] under the name which I have adopted; he informed me that its favorite food is the different species of *Pinus*.

[Belongs to *Glyptoscelis* Lec. Proc. Acad. Nat. Sci., Phila., 1859, 81, and was previously described as *Eu. hirtus* Oliv.—LEC.]

2. *E. BARBATUS*.—Brassy, with short ferruginous hair; antennæ obscure rufous.

Eumolpus barbatus Melsh. Catal.

Body dark brassy; tinged, particularly on the head and thorax, with cupreous; somewhat polished; punctured, and covered with short, ferruginous hair: head with a longitudinal, darker, 1826.]

slightly impressed line : antennæ and palpi dull rufous : elytra destitute of striæ or lines : beneath reddish-brassy, covered with whitish hair : feet very dark rufous.

Length nearly three-tenths of an inch.

Resembles the preceding, but is always smaller, and it may be at once distinguished from it by the color of the hair, which on the superior surface is decidedly ferruginous.

CHRYSOMELA Linn. Latr.

1. *C. CÆRULEIPENNIS*.—Blue polished ; thorax and feet rufous ; antennæ and tarsi black.

Head punctured, blue-black : antennæ black, basal joint rufous beneath and at tip : thorax bright rufous, with numerous punctures ; an obsolete transverse dusky line on the anterior submargin, and another on the posterior submargin : scutel blue : elytra polished blue, numerous punctured, the punctures irregularly situated, sometimes confluent : beneath blackish-blue : feet pale rufous : tarsi black : anus rufous. [297]

Length more than three-twentieths of an inch.

A beautiful and rare species, an inhabitant of the North West Territory. I received a specimen from Mr. John P. Brace of Litchfield, and another from Dr. T. W. Harris.

This is the very abundant *C. polygoni*, which is probably introduced from Europe.—LEC.]

2. *C. SPIRÆA* [E].—Green ; elytra pale yellow, with green spots, a common and sutural line trifid at base.

Head dark green, tinged with brassy : antennæ and palpi rufous : thorax dark green, tinged with brassy : elytra pale yellow, sometimes tinged with rufous : each with about seventeen unequal small green spots ; a larger lunate one originating on the humerus ; a common green sutural line, which sends off a lateral short branch on each side near the base : beneath blackish-green : feet rufous.

Length a quarter of an inch.

I received several specimens from Dr. Jno. F. Melsheimer, under the name which I have adopted. He informed me that he found them on the *Spiræa opulifolia* Muhl. Catal. I have also found them near Philadelphia, and in Missouri. It is very

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closely allied to the *C. philadelphica* Fabr., but is smaller, and the sutural line is always common; whereas in the *philadelphica* there is a slender subsutural line on each elytron always insulated from the suture throughout its whole length.

It has also a general similarity to the *multipunctata* nobis, but that species is larger and more oblong, the elytral spots more numerous, and arranged in a different manner, and the head and thorax are of a different color. [298]

HELODES Fabr.

H. TRIVITTATA.—Blue-black; margin of the thorax and two elytral vittæ yellow.

Body punctured: head entirely blue-black, with an impressed frontal line divaricated before: thorax with somewhat sparse punctures; lateral margins yellow, this color being contracted in the middle on the inner side: elytra with punctured stiræ: sutural margin yellow; vitta on the middle not reaching the tip, and exterior edge blue-black: feet immaculate: venter with the caudal segment margined behind with dull yellowish.

Length more than one-fifth of an inch.

This insect was sent me by Mr. Charles Pickering, of Salem. It is so closely allied to the *H. phellandrii* Linn., in size, form, description, and disposition of colors, that I have hesitated to consider it as distinct. The chief difference which I have been able to discover, consists in the circumstance, that the feet in the *phellandrii* are partly yellow, whilst those of the present species are perfectly immaculate. Still it is highly possible that it may prove to be a variety of that well known insect.

[This is a *Chrysomela* of the division *Prasocuris*.—LEC.]

GALLERUCA Fabr.

1. *G. RUFOSANGUINEA*.—Entirely rufo-sanguineous, punctured.

Head punctured, with an impressed frontal line passing down between the antennæ, and more dilated [299] above; an indentation each side near the eyes; antennæ black, dull rufous at base: eyes deep black: thorax with rather large numerous punctures, a large, indented spot each side, and a dilated longitudinal. 1826.]

tudinal line in the middle; posterior angles subacute: scutel at tip very obtusely rounded, or somewhat truncate: elytra with very numerous, profoundly impressed, rather large, irregularly disposed punctures: wings blackish: beneath hardly paler in color than the superior surface.

Length rather more than one-fifth of an inch.

Not uncommon in some situations in the middle States. I have also received it from Dr. T. W. Harris.

[Belongs to *Adimonia*.—LEC.]

2. G. MERACA.—Greenish-black; antennæ and feet yellowish.

Body black, slightly tinged with green: head with a few scattered punctures, a longitudinal impressed line, and above the antennæ a transverse one: antennæ yellowish: labrum and mouth yellowish: thorax destitute of distinct punctures; lateral edge a little excurved at the posterior angles, which are acute: elytra with obsolete irregular punctures: beneath black-blue: venter a little tinged with cupreous: feet yellowish: thighs at base blackish: coxæ yellowish.

Length more than three-twentieths of an inch.

[A species of *Luperus*.—LEC.]

ATTICA Fabr.

A. SUTURELLA.—Testaceous; thorax with black spots; elytra with a black sutural edge.

Body punctured, testaceous: head tinged with fulvous; [300] an impressed frontal line, and two impunctured spots; punctures numerous, dense; antennæ black, first joint beneath dull rufous: thorax tinged with fulvous, with fuscous spots or characters on the disk; punctures numerous: scutel black: elytra testaceous, tinged with fulvous on the exterior margin; punctures numerous, crowded; raised line of the suture black, forming a common sutural line, which does not quite reach the apex: pectus testaceous, tinged with pale fulvous: postpectus black: feet black: posterior thighs dull rufous beneath: venter dull rufous.

Length one-fourth of an inch.

Very distinct from any other species I have seen.

TRITOMA Fabr.

1. T. UNICOLOR.—Black; elytra striate; tarsi piceous.

Tritoma unicolor Melsh. Catal.

Body black, polished, minutely punctured: palpi yellowish: antennæ ferruginous, the club blackish: thorax with the punctures scattered on the disk, dense each side: elytra with regular series of impressed punctures, obsolete towards the tip: tibiæ all dilated and angular near the tip: tarsi pale piceous.

Length nearly one-fifth of an inch.

2. T. ANGULATUM.—Black; beneath piceous; feet yellowish.

Tritoma rufipes,
piceum, } Melsh. Catal.

Body black, polished, punctures obsolete; head piceous: palpi ferruginous: antennæ ferruginous, the [301] club blackish: elytra with regular series of impressed punctures: beneath piceous: feet yellowish: tibiæ dilated and angular near the tip.

Length nearly three-twentieths of an inch.

Resembles the preceding, but differs from it both in size and coloring.

3. T. PULCHRUM.—Black; elytra rufous on the basal half.

Tritoma pulchrum Melsh. Catal.

Body black, punctured, polished: antennæ ferruginous; club dark piceous: palpi yellowish: elytra rufous at base, deep black at tip, the line of division extending from behind the sutural middle, in an oblique direction rectilinearly towards the humeral angle, behind which it turns abruptly outward to the exterior edge; striæ of punctures regular: tibiæ hardly dilated at tip: tarsi ferruginous.

Length three-twentieths of an inch, nearly.

The *Triplax sanguinipennis* and *biguttata* of vol. 4. p. 89, may, perhaps, with greater propriety be referred to the present genus.

[This is *T. cinctum* Lac. subsequently described.—LEC.]

COCCINELLA Linn.

1. *C. PULLATA*.—Pale testaceous; elytra with a yellow lateral margin, in which is a black spot.

Head yellow: antennæ blackish at tip: labrum piceous at base: thorax with a pale testaceous disk; a narrow yellow anterior margin; a dilated, oval, yellow lateral margin, separated from the color of the disk by a black line, and including an insulated [302] black spot: elytra pale testaceous, with a dull yellowish lateral margin: beneath blackish.

Length from more than one-fourth of an inch to three-tenths.

I found an individual several years since, cast up by the waves on the eastern coast of Virginia, and I obtained another when in Florida with Mr. Maclure.

[Belongs to *Myzia* Muls. as reformed by me; *C. notans* Randall, is a variety of it.—LEC.]

2. *C. BINOTATA*.—Black; lateral margin of the thorax and head yellow; each elytron with a rufous spot.

Coccinella binotata Melsh. Catal.

Body rounded-oval, convex, punctured, black, polished: head pale yellow: labrum and transverse line on the vertex piceous: thorax with a yellow lateral margin extending for a short distance on the anterior margin; anterior margin with an obsolete yellowish line interrupted in the middle: elytron each with a rufous, orbicular, central spot.

Length less than three-twentieths of an inch.

This species agrees with the Fabrician description of the *C. oculata*, but it is a widely different species.

3. *C. NORMATA*.—Black; elytron each with a rufous spot.

C. bipustulata Melsh. Catal.

Body rounded-oval, convex, black, polished, punctured: head and thorax immaculate: elytron each with a central, orbicular, rufous spot.

Length less than three-twentieths of an inch.

This is very similar to the preceding species, but it is altogether destitute of any spot on the head and thorax. It is quite different in form from the *C. bipustulata*, Fabr.

[Belongs to *Hyperaspis*.—LEC.]

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4. C. PROBA.—Black; a lateral spot on the thorax, and three on each elytron, yellowish.

Body rounded-oval, black, punctured, convex: head immaculate: antennæ honey yellow: thorax with a large, oval, pale yellow spot on each lateral margin; elytron each with a rather large, yellowish, orbicular spot somewhat before the middle, two smaller orbicular yellow spots placed transversely beyond the middle, and nearer the exterior and sutural edges than to each other.

Length nearly one-tenth of an inch.

[Also a *Hyperaspis*.—LEC.]

EUMORPHUS Fabr.

1. E. DISTINCTUS.—Rufous; elytra with a common vitta, and another on the exterior margin, black.

Endomychus distinctus Melsh. Catal.

Body bright rufo-sanguineous: antennæ dark piceous, terminal joint paler: thorax with an impressed line on the lateral submargin; disk somewhat darker than the lateral margin: elytra with a rather broad, common, black vitta, commencing at the scutel, becoming a little narrower towards the tip, and abbreviated before the tip of the suture; an elongated black spot on the middle of the lateral submargin, and occupying more than one-half of its length: beneath immaculate.

Length less than a quarter of an inch.

A fine species, by no means common.

[Belongs to *Mycetina* Muls., and was previously described as *Lycoperdina vittata* Germ., or rather *Tritoma vittata* and *Catops vittatus* Fabr.; also as *Endomychus lineatus* Oliv.—LEC.]

2 E. ANGULATUS.—Dark rufous, margin and feet paler.

Endomychus limbatus Melsh. Catal.

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Body dark rufous or piceous: thorax a little convex; an impressed line on the lateral submargin; lateral margin paler than the disk: elytra a little convex, with a paler exterior margin, sometimes obsoletely so on its middle, the paleness being then confined to the humerus and tip: feet pale rufous: anterior tibiæ with a prominent angle on the inner middle.

Length rather more than one-fifth of an inch.

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Smaller and somewhat more convex than the preceding species. It is altogether different from the *limbatus* Oliv., of Cayenne.

[Belongs to *Lycoperdina* and was previously described as *L. ferruginea* Lec., Ann. Lyc. Nat. Hist. New York, 1, 172.—LEC.]

LYCOPERDINA Latr.

L. VESTITA.—Yellowish, hairy; disk of the elytra blackish.

Body oval, covered with rather short hairs; yellowish: antennæ, the six terminal joints piceous: thorax with the disk somewhat darker; lateral margin with an impressed line; lateral submargin with an abbreviated impressed line at base: elytra dark piceous; basal sutural and exterior margins yellowish: beneath immaculate.

Length more than three-twentieths of an inch.

I have found this species on the Oak in June.

[Belongs to *Stenotarsus* Perty, and was previously described as *Erotylus hispidus* Herbst, and subsequently as *Ephebus limbatus* Guérin, Archiv. Entom. 1, 270.—LEC.]

[From vol. 6, 1829: pp. 149—178.]

Descriptions of North American DIPTEROUS INSECTS.

CULEX Linn. Meig.

C. MUSICUS.—Tergum purplish, with lateral yellowish spots. Inhabits Indiana.

Head dull honey-yellow: vortex blackish with yellowish hair: proboscis and palpi black: thorax black-purple, with yellowish hair or scales: wings dusky: poisers white, a little dusky at tip: tergum purple, or violaceous, with a band at base, and large lateral spot on each segment of yellowish hair or scales: feet black-violaceous: thighs, excepting at tip, and coxæ whitish, sericeous: tarsi, two terminal joints of the posterior pair white.

Length more than one-fifth of an inch.

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CHIRONOMUS.

C. TÆNIONOTUS.—Stethidium green, trilineate; a black line on the middle of the anterior line.

Inhabits Indiana.

Body bright pea-green: head yellowish, terminal joint of the antennæ blackish: thorax with three dilated, pale honey-yellow vittæ; a black line along the middle of the anterior one: wings white: metathorax pale honey-yellow, with a blackish spot in the middle, divided by a green line: tergum [150] immaculate; pectus pale honey-yellow: feet pale greenish, anterior tibiæ and tarsal incisures dusky.

Length more than one-fifth of an inch ♀.

C. DEVINCTUS.—Tergum black, incisures white; feet with black incisures.

Inhabits Indiana.

Body dusky: stethidium dusky livid: thorax trilineate with blackish: scutel dull honey-yellow: halteres and wings white: tergum brownish-black; incisures, particularly those near the base, white: thighs black, anterior pale at base; the others with a white annulus near the tip: tibiæ and tarsi white, with black incisures.

Length nearly one-fifth of an inch.

CERATOPOGON Meig.

C. SCUTELLATUS.—Black; scutel yellow; abdomen whitish.

Inhabits Indiana.

Head blackish: mouth yellow: thorax pale yellowish, with three black lines, which are widely dilated before, and confluent: scutel yellow: wings dusky: poisers white: abdomen whitish: feet whitish.

Length nearly one-twentieth of an inch.

Appeared in considerable numbers on the last of August, soon after sunrise.

LIMNOBIA Meig.

L. LIVIDA.—Tergum livid, with a yellowish margin.

Inhabits Mexico.

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Head yellowish-brown, with a longitudinal fuscous line: antennæ 1829.]

fuscous, paler at base : joints rounded : thorax yellowish-brown, trilineate with blackish, exterior lines dilated, middle line capillary : metathorax with a gray reflection, yellow each side : poisers elongated, reaching the tip of the second abdominal segment, yellow, with a lateral dusky line : wings with a slight yellowish-brown tint, cross nervures margined with dusky : tergum livid, with a darker dorsal, and submarginal line, and yellowish margin : pleura bilineate with fuscous ; superior line passing round the pectus before the anterior feet, and the inferior line behind them : feet yellowish, with an obsolete dusky band towards the tip of the thighs : venter livid, with a yellowish margin and obsolete middle line.

Length more than one-fourth of an inch.

The nervures are arranged nearly as in *L. lutea* Meig.

TIPULA.

T. ANNULICORNIS.—Pale ; antennæ annulate with black.

Inhabits Indiana.

Body very pale honey-yellow : antennæ with a black annulus on each joint : palpi black at tip : wings immaculate : tergum with obsolete, dusky, slightly undulated bands.

Length under one-fourth of an inch.

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PLATYURA.

P. SUBTERMINALIS.—Yellowish ; wings with a subterminal band.

Inhabits Indiana.

Body entirely pale honey yellow : antennæ, excepting the two basal joints, fuscous : ocelli with a small black areola : thorax immaculate : wings with a slight yellowish tinge ; a blackish subterminal band, occupying on the costal margin all the space between the small cross nervure and the tip of the next long nervure, and extending to the thinner margin : tergum a little more dusky than the thorax ; tibiæ and tarsi dusky.

Length three-twentieths of an inch.

Nervures as in *P. Baumhaueri* Meig., but the small cross nervure on the costal margin is perpendicular to the costal edge.

LEIA Meig.

L. BIVITTATA.—Honey-yellow; trunk bilineate, and tergum with two series of black punctures.

Inhabits Indiana.

Body rather pale honey-yellow: antennæ black at tip: stemmata very distinct, in a curved line: thorax a little hairy, on each side a dilated black vitta: wings fasciate near the tip: tergum on each side with a series of oval black spots: coxæ white.

Length over three-twentieths of an inch.

Taken on the window in June.

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MYCETOPHILA Meig.

M. DISCOID[E]A.—Thorax pale with a blackish disk; wings with a fuscous spot.

Inhabits Indiana.

Head blackish: antennæ whitish, at tip blackish: thorax pale honey-yellow; disk blackish owing to three vittæ of that color being confluent into one: wings hyaline, with a fuscous spot on the connecting nervures: tergum blackish, somewhat sericeous: poisers whitish: feet whitish, with blackish tarsi: abdomen whitish at base.

Length more than one-tenth of an inch.

Belongs to Meigen's first division of the genus.

M. NUBILA.—Dusky; wings immaculate; feet whitish.

Inhabits Indiana.

Body dusky, brownish: antennæ first and second joints yellowish: thorax on the humerus dull honey-yellow: scutel dull yellowish: wings hyaline, immaculate: poisers whitish, capitulum dusky before the tip: abdomen slender, gradually enlarging to the tip: tergum with the tips of the segments pale; anal segment pale: feet whitish, dusky towards the tips; spines one-third the length of the first tarsal joint.

Length three-twentieths of an inch.

Belongs to Meigen's fifth division.

SCIARA Meig.

L. UNICOLOR.—Velvet black; wings with a slight violaceous tinge.

[154]

Inhabits Mexico.

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Body velvet black, with numerous short hairs: thorax with a minute humeral, obsolete piceous spot, and another at base of the wings: scutellum with an obsolete piceous spot on each side; wings large, black, with a violaceous tinge; the apical furcate nervure, as well as all the other nervures, equally definite.

Length nearly three-tenths of an inch.

S. EXILIS.—Halteres nearly half the length of the abdomen. Inhabits Indiana.

Body dusky: antennæ as long as the body: stethidium yellowish-white: thorax blackish: wings dusky; apical forked nervure wide, the inferior portion hardly arched: halteres subelavate, about half as long as the abdomen, a little dusky: abdomen a little hairy: feet pale.

Length ♂ one-thirtieth of an inch.

PENTHETRIA Meig.

P. HEROS.—Black; costal margin of the wings fuscous. Inhabits Mexico.

Body entirely velvet black: wings dusky; costal margin fuscous; costal edge black; nervures of the disk-pale.

Length ♀ two-fifths of an inch.

This I believe to be the largest species, yet discovered, of this small genus. The arrangement of [155] the nervures differ considerably from that of *P. holosericea* Latr., as represented by Meigen. The male is much smaller and nearly corresponds in the arrangement of its nervures.

DILOPHUS Meig.

D. STYGIUS.—Velvet black, immaculate. Inhabits Mexico.

Body velvet black: thorax with a transverse series of approximate spines on the collar, interrupted in the middle, and a series of smaller ones before the middle of the thorax: wings blackish a little tinged with violaceous: anterior tibia with a series of acute spines on the anterior middle and tip.

Length one-fourth of an inch.

BERIS.

B. FUSCITARSIS nob.—When describing this species I observed that “The scutel of my specimen is wanting, I cannot therefore ascertain its number of spines.” I have since obtained individuals in Indiana, and find that the scutel is altogether destitute of spines or radii. It differs in this respect from all the known species.

XYLOPHAGUS Meig.

X. FASCIATUS.—Wings dusky, fasciated; abdomen fasciated. Inhabits Indiana.

Body dusky: thorax ——— posterior portion honey-yellow: [156] poisers blackish at tip: wings dusky, a more distinct band on the middle and at tip: feet honey-yellow; hind tibiæ blackish: tergum yellow, basal half of the four basal segments black; remaining segments nearly all black.

Length over two-fifths of an inch.

By an accident the head and anterior part of the thorax of this fine specimen were destroyed, but the above description will sufficiently indicate the species. The wing nervures resemble those of the *maculatus* Fabr.

THEREVA Latr.

T. ALBIFRONS.—Black, with gray hair: thorax with a blackish vitta.

Inhabits Indiana.

Body black, with numerous gray hairs: front silvery: antennæ ———: rostrum dirty honey-yellow: thorax with a broad fuscous vitta: wings hyaline: poisers black at tip: tergum with the segments tipped with a more dense margin of gray hairs, wider and more obvious on the sides: venter, the two middle segments with a pale terminal margin: feet blackish; tibiæ dirty honey-yellow.

Length ♂ three-tenths of an inch.

Resembles *frontalis* nob., but is much smaller.

ANTHRAX.

A. EDITITIA.—Black, with fulvous hair: wings fuscous at base.

[157]

Inhabits ———.

Body black, covered with dense fulvous hair: cheeks naked: proboscis rather prominent, black: antennæ, two basal joints yellowish: wings hyaline, basal half fuscous, including all the costal cellule and the middle transverse nervures which are darker than the other part; two exterior transverse nervures margined with blackish: halteres reddish-brown, tip yellow: tergum each side and at tip yellowish: venter, except on the two or three basal segments yellowish: feet fulvous; tarsi blackish.

Length over two-fifths of an inch.

Belongs to Wiedemann's fifth tribe.

A. LIMATULUS.—Wings fuscous at base and with three fuscous points.

Inhabits Indiana.

Body brownish-black: occiput plumbeous, near the neck black, with a black indented line passing up to the vertex: wings dusky, fuscous at base, chiefly on the costal portion of it, which extends attenuating beyond the middle; anastomosis, in the hyaline portion, margined with fuscous: tergum with four series of silvery points, or rather abbreviated transverse lines.

Length ♂ three-tenths of an inch.

Length ♀ two-fifths of an inch.

[158]

Var. a. Posterior cross nervure of the central wing cellule not margined.

Belongs to Wiedemann's second tribe.

DASYPOGON Meig.

D. CEPHICUS.—Black, with short cinereous hair.

Inhabits Mexico.

Hypostoma, mystax, and genæ silvery: antennæ black, first joint of the style longer than the second: vertex concave, but not very profound: stemmata on a common elevation: thorax with a slight appearance of lineations before: poisers yellow at tip: nervures black: tergum with the segments having short white hair each side: metathorax also somewhat silvery each side: anterior coxæ with a slender, arquated, transverse, black common line, and a longitudinal black line of separation: anterior tibiæ with silvery hair.

Length one-fourth of an inch.

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The nervures of the wings are arranged more like those of an *Asilus* than of a *Dasypogon*, but the bi-articulate style proves the generic affinity.

LAPHRIA.

L. SANTOSA.—Black; abdomen sanguineous.

Inhabits Indiana.

Body blued-black: head black; front with a silvery reflection: posterior and inferior orbits reflecting [159] silvery: wings black violet: abdomen sanguineous, first segment of the tergum blackish.

Length nearly half an inch.

RAMPHOMYIA Meig.

R. RUFIROSTRA.—Black; thorax lineate.

Inhabits Indiana.

Body hairy, black: proboscis honey-yellow, black at base: thorax blackish-cinereous, opaque, with three polished, black, equal lines obsolete behind, and two less obvious ones on each side, connected to the exterior of the dorsal ones in a humeral spot: wings with a yellowish tinge towards the base, and a large fuscous carpal spot; middle cellule very short, but little longer than broad: poisers honey-yellow, with a fuscous capitulum: tergum polished: feet very hairy, polished; anterior tarsi, first joint as long as the tibia and rather more dilated.

Length ♀ three-twentieths of an inch.

SARGUS.

S. TRIVITTATUS.—Green; thorax [with] dull darker lines: tergum fasciate.

Inhabits Indiana.

Body grass green, not metallic, nor brilliantly polished: antennæ terminal joint rounded, yellow; seta black: stemmata equidistant, in a fuscous areola: thorax trilineate with dull reddish-brown: poisers blackish at tip: tergum, segments, excepting the [160] basal one, with a broad dusky band at their bases: feet dull yellowish, darker at their tips.

Length from two-fifths to half an inch.

A large species, destitute of the highly polished metallic color 1829.]

so striking in many species. The thoracic lines are so dilated as to give the thorax the appearance of being entirely dull reddish-brown.

NEMOLETUS Meig.

N. POLYPOSUS.—Black; feet yellowish; thighs black at base. Inhabits Mexico.

Body black, with a slight tinge of purplish, polished: wings white, costal and basal nervures yellowish: poisers white: feet honey-yellow; thighs, except at tip, black; tarsi, terminal joint black; posterior tibiæ black in the middle: venter immaculate.

Length more than three-twentieths of an inch.

This is closely allied to the species which I described under the name of *pallipes*.

STRATIOMYS.

S. TRIVITTATA.—Greenish; thorax with three, tergum with one black vitta.

Inhabits Mexico.

Head yellowish-green; front and vertex brownish, each with a transverse, somewhat undulated line: antennæ reddish-brown, paler at base: thorax green, with three broad black vittæ: scutel greenish, two-spined, [161] immaculate: poisers pea-green: tergum yellowish-green, with a dilated, crenate vitta: pectus with a broad black vitta: proboscis and point each side on the hypostoma, black.

Length nearly seven-twentieths of an inch.

S. GONIPHORA.—Black; thorax with minute golden hairs: beneath greenish.

Inhabits Mexico.

Head yellowish-white, two undulated black frontal bands: vertex black, yellowish behind: hypostoma with a lateral black dot, sometimes obsolete: proboscis black: antennæ black: occiput black: thorax with numerous small golden hairs; a yellowish line over the wings: scutel black, posterior margin and spines yellow: wings hyaline; costal nervures and cellule yellowish; middle nervures blackish: tergum black, with lateral yellow triangles and tip; beneath pale greenish: pectus on the disk

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black : feet yellowish, a line beneath the thighs black : venter on the posterior disk ferruginous.

Length more than three-tenths of an inch.

BACCHA.

B. COSTATA.—Body black ; tergum with white bands.

Inhabits Indiana.

Head silvery ; a shining black line from the vertex to the mouth, much constricted on the middle of [162] the front : antennæ obsoletely honey-yellow at base : occiput plumbeous with a silvery reflection : thorax black : poisers white : wings hyaline with a somewhat narrow costal margin, not reaching the tip : scutel margined with yellow : tergum black ; first, second, and third segments with an oblique white spot on each side at base, and remaining segments tipped with white ; feet black ; anterior pairs, base of the tibia and tip of the thighs honey-yellow ; posterior tibia honey-yellow at base.

Length half an inch.

XYLOTA Meig.

X. ARQUATA.—Blackish ; tergum fulvous with white arcs.

Inhabits Mexico.

Body blackish : head above with greenish hair, below the antennæ with whitish hair : vertex blackish ; tubercle of the antennæ black : antennæ black-fuscous : hypostoma with a naked black vitta before, and another on each side, from the anterior canthus of the eye to the tip : thorax with short hair ; with three slender lines on the disk : scutel yellowish at tip : wings hyaline : tergum fulvous ; first segment black ; remaining segments, excepting the terminal one, with a blackish middle and whitish transverse arquated line each side : feet, knees and posterior tibiæ honey-yellow : venter yellowish, more dusky at tip. [163]

Length seven-twentieths of an inch.

Var. *a*. Tergum black, with transverse arquated lines : posterior margins of the segments yellow.

MILESIA Fabr. Meig.

M. BARDA.—With yellow hair ; tergum black, yellow at base.

Inhabits Indiana.

Body black : hypostoma with silvery hair and longitudinal,
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polished, naked line : antennæ piceous : front covered by yellow hair : thorax densely covered by yellow hair black in the middle : scutel piceous, covered by yellow hair : wings with a large fuscous spot on the middle, obsolete in the male : poisers piceous : tergum black, covered by black hair ; basal segment and second segment at base covered by yellow hair : feet hairy ; tarsi piceous : posterior thighs of the male much thickened and with their tibiæ arquated.

Length three-fifths of an inch.

This I formerly considered as *Eristalis posticatus* Fabr., but his attributed characters of "thorax immaculatus" and "femoribus posticis dentatis" seem to prove it distinct.

[Walker, List of Diptera of British Museum, 3, 598, refers this species to *Merodon*.—SACKEN.]

SYRPHUS Fabr. Meig.

1. *S. STEGNUS*.—Blackish-blue ; tergum fasciate with glaucous. [164]

Inhabits Mexico.

Body black-blue : hypostoma with dull cinereous irregular rugosities : antennæ, terminal joint beneath dull honey-yellow : wings hyaline, between the mediastinal and postcostal nervures yellowish : poisers yellow : tergum velvet black, opaque, with polished glaucous bands, the first one interrupted ; second and third occupying the basal half of the segments, the outer margin and the narrow tip, together with a longitudinal line ; terminal segment entirely glaucous : tibiæ honey-yellow : venter cupreous.

Length less than three-tenths of an inch.

2. *S. MUTUUS*.—Tergum yellow, with blackish bands and spots.

Inhabits Mexico.

Head beneath and behind plumbeous : posterior orbits dull yellowish : front and vertex brassy black : hypostoma prominent, yellow : antennæ, beneath honey-yellow : thorax olivaceous, with a blue vitta, and yellow one over the wings : scutel dull yellowish, paler at tip : tergum with five broad blackish-purple bands, concealing the incisures, and on the middle of the third and fourth segments are two small blackish spots ; terminal band

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somewhat trilobate: feet yellow; posterior tarsi blackish: venter yellow, tinged at tip with ferruginous.

Length one-fourth of an inch.

Closely allied to *S. marginatus* nob., but the abdomen is much more elongated. [165]

3. *S. ECTYPUS*.—Segments of the tergum edged with yellow and with a lateral oblique line.

Inhabits Mexico.

Head yellow: proboscis black: vertex blackish: occiput black: posterior and inferior orbits gray: mouth, each side and beneath black: thorax green-gray, with an obsolete capillary line reflecting yellowish: scutel honey-yellow, darker on the middle base: poisers yellow: tergum black, edged all round with yellow; second segment with two yellow dots; third and fourth segments with their basal edges and dorsal line yellow, and on each side a wider line originating from the base, and curving a little towards the dorsal line, abbreviated, rounded at tip and tinged with rufous; fifth segment rufous with three black spots: pectus blued-black: feet white: posterior tarsi blackish.

Length less than one-fifth of an inch.

ERISTALIS Fabr. Meig.

E. TRIFASCIATUS.—Thorax grayish, trifasciate; tergum with a band; incisures yellow.

Inhabits Mexico.

Head white, on the vertex a little olivaceous; behind dark olive, with white orbits: antennæ with the seta naked, and with a spot above on the front elevation of the hypostoma, and mouth each side honey-yellow: thorax gray-olive, with three equidistant blackish bands; middle band as broad as the [166] other two together; posterior band terminal: wings tinged with yellowish, particularly in the middle: scutel pale honey-yellow: tergum black; second segment with a broad honey-yellow band, interrupted in the middle, and with the third and fourth segments bright-yellow on the posterior margin: feet rufous, tibiæ paler at base; posterior thighs blackish at base.

Length over half an inch.

VOLUCELLA Geoff. Meig.

1. *V. VIOLACEA*.—Dark violaceous; hypostoma whitish.

Inhabits Mexico.

Body blackish-violaceous: hypostoma dull honey yellow, with small hairs reflecting whitish; thorax, each side, and scutel paler: wings blackish at base; this color is confined to the basal cellules and the costal margin to the middle.

Length ♂ thirteen-twentieths of an inch.

The eyes of the specimen are in contact on the vertex.

2. *V. POSTICA*.—Obscure violaceous; hypostoma whitish with a lateral black line.

Inhabits Mexico.

Body blackish-violaceous: head whitish, tinged with obscure yellowish: antennæ fuscous: hypostoma with a black line each side: orbits behind and above silvery: thorax each side and before the scutel, dull honey-yellow: scutel honey-yellow: wings [167] hyaline, transverse nervures of the middle margined with blackish: tergum yellowish-violaceous, darker on the tips of the segments; third and fourth segments with a small white spot on each side at their bases: venter with a yellow disk: feet blackish; tibiæ dirty honey-yellow.

Length half an inch. ♂.

Viewed from before, the posterior segments of the tergum have a hoary appearance, in consequence of having numerous short hairs of that color. The eyes in the specimen are distant on the vertex.

3. *V. MARGINATA*.—Black, head white; tergum with black bands.

Inhabits Mexico.

Head white; vertex black; face with a black line extending to the tip of the hypostoma: hypostoma with a line each side, and all beneath black: orbits beneath white, behind glaucous: antennæ dark honey-yellow, seta very densely plumose, appearing like a solid mass, black: thorax with a vitta on each side over the wings, and two spots at base, yellowish white: wings with the middle cross nervures margined with dusky: tergum pale yellow, with a black dorsal vitta, and black posterior margins to

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the segments : venter whitish, at tip black : feet black ; tibiæ at base white ; tarsi at base tinged with rufous.

Length seven-twentieths of an inch, the other sex half an inch.

If it be true that the male in this genus, is distinguished [168] invariably by the contact of the eyes on the vertex, then the male of the present species is nearly double the size of the female, and the former has the more densely plumose antennæ ; in this case also the female of the *violacea* has the loosely plumose antennæ, and the female of the *postica* has the loosely plumose antennæ.

PSILOPUS Meig.

1. P. FEMORATUS.—*Dolichopus femoratus* nob. Jour. Acad. Nat. Sci., vol. iii. p. 86. [Ante, 76.]

This brilliant species varies in the color of its thighs, which in my description are stated to be green ; a specimen taken in Indiana has whitish thighs.

2. T. PATIBULATUS nob.—*Dolichopus patibulatus* Journ. Acad. Nat. Sci., vol. iii. p. 87. [Ante, 76.]

This species also occurs in Mexico.

CHRYBOTUS Meig.

1. C. NUBILUS.—Blackish ; feet dull honey-yellow.

Inhabits Indiana.

Body blackish : head dull plumbeous : thorax cinereous, with three brown lines : wings immaculate : poisers white : feet dark honey-yellow ; thighs black at base and above.

Length rather over one-tenth of an inch.

2. C. CONCINNARIUS.—Green-brassy ; tergum blue towards the tip. [169]

Inhabits Mexico.

Head violaceous, with a cinereous reflection : palpi with a cinereous reflection : antennæ black : thorax green with a gray olivaceous reflection : wings hyaline, obsoletely tinged with yellowish on the costal margin : poisers white : tergum with a gray reflection, brassy-green at base, and violaceous towards the tip : thighs green ; tibiæ whitish.

Length one-fourth of an inch.

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3. *C. ABDOMINALIS*.—Green, polished; feet white.

Inhabits Indiana.

Body bright green, brilliant: hypostoma purple: antennæ yellow: thorax immaculate: poisers yellow: tergum, first segment at base with an obsolete yellowish line: feet white: venter white, at tip blackish-purple.

Length ♂ one-tenth of an inch.

MEDETERUS Fisch.

1. *M. LATERALIS*.—Tergum pale, with a lateral series of polished spots.

Inhabits Indiana.

Head silvery: proboscis and antennæ yellowish, seta of the first joint very short: eyes (when recent) green polished, with a cupreous reflection: thorax green, somewhat pruinose, with a dorsal rather compound vitta: wings hyaline: poisers whitish: tergum dull yellowish, with a series of [170] brassy spots on each side, posterior two largest: feet and venter whitish.

Length nearly three-twentieths of an inch.

The dorsal vitta is impressed behind.

2. *M. PUNCTIPENNIS*.—Thorax variegated; wings with brown spots.

Inhabits Mexico.

Thorax olive-brown, trilineate; middle line slender, dull yellowish, obsoletely zigzag; outer lines cinereous with black points: scutellum brown, cinereous in the middle: wings hyaline, with many irregular fuscous spots, hardly to be traced into four bands: poisers yellow; tergum cupreous, posterior margins of the segments blackish: feet white; tarsi blackish.

Length nearly one-fifth of an inch.

DOLICHOPUS F. Meig.

D. ABDOMINALIS.—Green; abdomen rufous.

Inhabits Indiana.

Head silvery: antennæ, first and second joints black, third —: thorax polished green: wings hyaline: abdomen, excepting the terminal joint, rufous: halteres white: pleura and pectus blackish, pruinose: feet white; tarsi dusky.

Length less than three-twentieths of an inch.

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SCENOPINUS Latr. Fabr.

S. NUBILIPES.—Black; thorax submetallic; thighs black.

Inhabits Indiana.

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Body black: head and thorax with numerous short hairs giving it a granulated appearance, the latter with an obsolete rufous lateral tubercle near the humerus, disk slightly metallic: wings very slightly dusky: poisers blackish: tergum transversely grooved: thighs black: tibiæ dull honey-yellow; tarsi, particularly the posterior pair, whitish.

Length less than one-fifth of an inch.

Closely allied to *S. pallipes* nob., but may be distinguished by the color of the feet.

CONOPS Fabr.

C. TIBIALIS.—Black; two-thirds of the wings fuscous; tibiæ white at base.

Inhabits Indiana.

Body black, with short hairs: head yellow: vertex black: front with a longitudinal black line, bifarious at the base of the antennæ: hypostoma with an impressed saggitate spot: antennæ black, terminal joint beneath obscurely rufous: proboscis black: mouth, each side and beneath black: occiput black, with a white reflection: thorax black; humeral tubercle with a whitish reflection: scutel and metathorax black, the latter with a whitish reflection: wings two-thirds fuscous; central cross nervure very distinct: poisers yellow, black at the base of the petiole: tergum, segments edged behind with whitish or yellowish, on the basal suture the white band is common; [172] near the tip with more or less of a whitish reflection: feet black; tibiæ white at base, anterior and intermediate pairs near the tip with a silvery reflection.

Length from one half to three-fifths of an inch.

Resembles *C. sagittaria* nob., but differs in several characters.

PHASIA Latr.

1. *P. ATRIPENNIS*.—Black; abdomen and base of the thighs ferruginous.

Inhabits Indiana.

Mouth and hypostoma pale yellowish: proboscis black: palpi 1829.]

yellowish : orbits yellow, somewhat golden : antennæ black, third joint hardly longer than the second, subovate : front with a much dilated velvet-black vitta : thorax black, with a dilated golden vitta each side before : wings black, opaque, gradually paler on the thinner margin ; apical cross nervure confluent with the externo-medial nervure before the tip ; poisers and scale yellow : feet black ; thighs at base, coxæ and abdomen ferruginous.

Length three-tenths of an inch.

The wing nervures are like those of *P. semicinerea* Meig.

2. *P. JUGATORIA*.—Black, abdomen ferruginous ; thorax with golden lines before.

Inhabits Indiana.

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Front golden, with a dilated fuscous vitta : hypostoma whitish, with two black lines each side descending from the antennæ : antennæ fuscous, first joint very short, third ovate, longer than the second : proboscis blackish : palpi yellow : thorax black, a transverse golden line before the middle, from which proceed five golden lines to the anterior margin, the lateral ones more dilated and anterior to the wings black, opaque ; posterior margin abruptly hyaline ; apical cross nervure rectilinear, confluent with the apex of the wing at the tip of the externo-medial nervure : poisers and wing scale pale ferruginous : abdomen pale ferruginous, black at tip : feet black ; thighs at base, and coxæ pale ferruginous ; posterior tibiæ deeply ciliated with dilated scale-like hairs.

Length three-tenths of an inch.

This cannot be the *Thereva lanipes* of Fabr. of which the thoracic lines are said to be white, and the abdomen black, immaculate ; neither can it be the *Thereva pilipes* Fabr., which is said by Wiedemann to be a *Phania*, for the antennæ of our species have not the third joint "elongated and linear" as in that genus. It seems also allied to *Dictya pennipes* Fabr., which, however, has a large ferruginous spot on the wing.

[This is a *Trichopoda* Latr., previously described as *T. (Dictya) pennipes* Fabr. Say described the male ; the female has a ferruginous spot at the base of the wing, and the abdomen is entirely ferruginous.—SACKEN.]

OCYPTERA Fabr.

O. ARCUATA.—Wings blackish on the costal margin; apical cross-nervure arcuated at its origin. [174]

Inhabits Indiana.

Body blackish: hypostoma yellowish-white; orbits, excepting behind and on the vertex, honey-yellow with a gray reflection: front with a dilated blackish vitta: antennæ with the base of the third joint obsoletely honey-yellow beneath: thorax with yellow hair before the wings: wings hyaline: costal margin blackish; terminal cross-nervure not angulated at its origin: halteres yellowish: wing-scales white: feet black; base of the thighs and coxæ yellowish: tergum pale yellowish; basal segment with the base and dorsal line black; second segment with a large black triangle; third segment with a gray reflection each side; remaining part black: venter pale yellowish, at tip black.

Length three-tenths of an inch.

This may readily be distinguished from other species, by the form of the apical cross-nervure.

MILTOGRAMMA Meig.

M. TRIFASCIATA.—Tergum black, fasciate with gray.

Inhabits Indiana.

Hypostoma and posterior and inferior orbits honey-yellow, with a silvery reflection: antennæ honey-yellow; seta with dense short hairs: frontal vitta of equal breadth: thorax gray, with many obsolete abbreviated blackish lines: scutel gray: tergum black; segments, except the basal, silvery-gray [175] on the basal half: venter the same: feet black; thighs on the exterior side with a gray reflection; wings tinged with brownish.

Length less than half an inch.

GONIA Meig.

G. FRONTOSA.—Front very prominent, abdominal segments whitish at base.

Inhabits Upper Missouri.

Body black, with rigid hairs: head pale yellowish-white, sericeous: front very prominent, gibbous: eyes placed very far back, oblong-oval, chestnut-brown: stemmata black: antennæ black-1829.]

ish-cinereous; seta reclivate, robust, terminal joint longest: proboscis black: palpi pale: thorax immaculate: scutell pale brownish: wings dusky; nervures blackish-brown; costal margin, towards the base brownish: feet black: tergum each side near the base with a large, obsolete, reddish-brown spot; segments whitish at base.

Length nine-twentieths of an inch.

Occurred rather common at Engineer Cantonment on the Missouri, late in March, on a wounded tree from which much sap had exuded.

MESEMBRINA Meig.

M. PALLIDA.—Honey-yellowish; wing nervures margined.

Inhabits Indiana.

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Body dull honey-yellowish: head pale yellow: front with a reddish-brown vitta: antennæ very short, hardly half as long as the hypostoma, terminal joint oval: nervures margined with brownish: pectus, pleura and feet paler.

Length two-fifths of an inch.

CORDYLURA Fall.

C. QUALIS.—Dark cinereous, hairy; thorax trilineate; head with a cinereous reflection.

Inhabits Indiana.

Body blackish-cinereous: head hemispheric, dark plumbeous, with a silvery reflection: eyes approximate above: antennæ blackish, rounded at tip; bristle short, two-jointed, thickened at base: palpi hairy, black, dilated at tip: proboscis rather long, slender, black: thorax obscurely trilineate with black and with two less distinct oblique lines each side: wings slightly dusky: tergum very hairy, black, when viewed from behind with a gray reflection, except on the dorsal line and sutures: feet hairy, black.

Length ♂ one-fifth of an inch.

DEXIA Meig.

1. *D. VERTEBRATA*.—Abdomen conic, pale yellowish, with a dorsal black line and tip.

Inhabits Indiana.

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Orbits, except behind, silvery : front fuscous : [177] hypostoma pale livid, with a dark lateral line bounding the orbits : antennæ yellowish, darker at base ; seta blackish : thorax blackish : tergum yellowish-white with a black line, which is somewhat dilated at the tip of each segment ; tip of each segment and tail black : feet black ; coxæ piceous.

Length half an inch.

Nervures of the wings arranged like those of *D. rustica* Fabr.

2. *D. ANALIS*.—Abdomen, yellow, blackish at tip.

Inhabits Indiana.

Head silvery ; front tinged with dull yellowish : antennæ yellowish, tip of the third joint black : palpi yellow : proboscis black, yellow at tip : thorax black, with a somewhat golden reflection ; a dull yellow line each side, passing over the origin of the wings : wings hyaline, a little dusky, yellowish at base : scutellum yellow : pectus black, with a whitish band before : feet yellowish ; tarsi black : abdomen pale yellow, tip fuscous.

Length seven-twentieths of an inch.

The proboscis and palpi are much elongated.

SAPROMYZA Fall.

1. *S. CONNEXA*.—Pale honey-yellow ; head whitish.

Inhabits Indiana.

Head whitish : antennæ pale honey-yellow, terminal joint rounded : eyes greenish, somewhat gilded : [178] thorax and scutellum honey-yellow : wings with a slight yellowish tinge : tergum paler than the thorax : feet white.

Length three-twentieths of an inch.

Closely resembles *S. flava* Linn., of Europe, but is much larger. The *S. flava* is also an inhabitant of this country.

2. *S. BIPUNCTATA*.—Yellowish : wing with spots and costal margin fuscous.

Inhabits Mexico.

Body pale honey-yellow : scutellum with two black points on the posterior edge : wings hyaline ; costal margin beyond the post-costal nervure, and extending in breadth a little over the sub-costal nervure, fuscous ; near its tip it extends into the wing so as to form a spot on the externo-medial nervure, this nervure and
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the interno-medial nervure have each a spot at tip : the two cross-nervures margined : tergum more dusky at tip, with an obsolete blackish dorsal line, and posterior margins of the segments.

Length one-fifth of an inch.

[Continuation from vol. 6, 1830, pp. 183—188.]

ORTALIS_v Fall.

1. O. MARGINATA.—Nervures margined with fuscous.

Inhabits Indiana.

Body dull honey-yellow : front somewhat fulvous : hypostoma with a black line under each antennæ : thorax yellowish-gray, with two dorsal black lines, exterior to which are three abbreviated lines : scutel immaculate : wings with the nervures margined with fuscous ; costal margin fuscous, with a whitish spot near the base, extending into a band, another hyaline spot before the tip : pleura honey-yellow : feet pale, tergum black ; first and second segments chiefly honey-yellow ; remaining segments gray at base.

Length three-tenths of an inch.

Closely allied to the genus *Platysoma*, and is a fine species.

2. O. LIGATA.—Wings quadrifasciate with fuscous.

Inhabits Mexico.

Body blackish : head ferruginous, tinged with glaucous behind and on the vertex : thorax blackish-plumbeous : wings white, subopaque, with four fuscous [184] bands ; the first a little oblique, across the neck of the wing ; second from the tips of the mediastinal and postcostal nervures, and proceeding a little obliquely, so as to be bounded posteriorly by the middle cross nervure ; third, perpendicular to the costal margin, and covering the posterior cross nervure ; fourth, terminal, slightly connected on the costal edge with the third : poisers white : tergum coppery-black : feet black ; knees and tarsi ferruginous.

Length three-twentieth of an inch.

3. O. TRIFASCIATA.—Wings hyaline, trifasciate with fuscous.

Inhabits the United States.

Head blackish-rufous : thorax brassy, polished : scutel rather

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darker than the thorax : wings with a brown fascia rather before the middle, hardly to be traced to the thinner margin, and not passing over the middle cross nervure ; another band passing over the other cross nervure, and nearly parallel to the first : tip brown, as broad as the other bands, and connected to the second band by the costal margin : feet honey-yellow ; thighs dusky at base : abdomen greenish, towards the tip tinged with cupreous.

Length one-fifth of an inch.

4. *O. VAU.*—Blackish ; wings with about three bands and tip fuscous. [185]

Inhabits Ohio.

Body dark cinereous, with numerous fuscous points and spots : antennæ, terminal joint piceous : superior orbits and band above the antennæ piceous : vertex and front blackish : poisers whitish : wings hyaline, near the base a fuscous band much paler in the middle ; another somewhat dislocated band passes over the two cross nervures, the inferior or dislocated portion points to a costal spot beyond the middle, and if continued to it would form the letter V ; this band is also much paler in the middle ; tip fuscous.

Length more than one-fifth of an inch.

The circumstance of the wing bands being paler in the middle, gives the costal margin the appearance of having four equal, equidistant spots.

The inferior dislocated portion of the second band, is sometimes so extended as almost to join the third costal spot.

When recent, the eyes are sanguineous, with a longitudinal, pale, narrow line.

It occurred in plenty early in August.

TRYPETA Meig.

1. *T. ELECTA.*—Thorax lineate with bright yellow ; wings fasciated.

Inhabits Indiana.

Head pale yellowish : thorax honey-yellow ; a line before the wings bright yellow, another over the [186] wings confluent behind with the bright yellow scutal, and another on the middle abbreviated before : wings hyaline, a brown V on the middle, the 1830.]

posterior limb extending along the costal margin, to the tip or a little below; a brown point on the costal margin within the V; near the base a brown band parallel to the basal limb of the V: poisers pale yellow: abdomen pale yellow, ultimate segment with a black dot each side: pleura with a yellow line each side.

Length three-tenths of an inch.

2. *T. OBLIQUA*.—Yellowish: wings with oblique bands; tergum with two series of black dots.

Inhabits Indiana.

Body pale brownish-yellow: wings with a definite yellowish costal margin, and three very oblique bands proceeding from the costal margin; basal band terminating on the thin margin midway between the anal and axillary nervures: middle band terminating at the tip of the anal nervure; outer band terminating at tip of the interno-medial nervure; costal margin ending a little beyond the externo-medial nervure; the bands are edged exteriorly with a black line, which is dilated into a spot at tip: thorax with two black dots behind: scutel yellow, pale: tergum with a series of black dots each side.

Length one-tenth of an inch.

The wing bands are parallel and equidistant, the intervals are as broad as the bands.

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3. *T. CALIPTERA*.—Wings black, with hyaline points, apical edge white.

Inhabits Indiana.

Body dull brownish, or dirty honey-yellow: hypostoma with two deep black dots: wings rounded, black, with very numerous, subequal, hyaline points, those of the thinner margin rather larger; apical margin white: poisers yellow at tip: tarsi paler than the leg.

Length more than one-fifth of an inch.

CHLOROPS Meig.

C. PROXIMUS.—Yellow; thorax trilineate with black.

Inhabits Indiana.

Body yellow: antennæ black: vertex with a black triangle elongated before almost to the base of the antennæ: occiput with a large black spot, like a dilated continuation of the triangle of the vertex: thorax with three black vittæ: scutel im-

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maculate : wings hyaline : beneath the scutel a large black spot : tergum dull yellowish ; segments dusky at tips ; second segment with a black spot each side at base ; venter tinged with green ; feet tinged with honey-yellow.

Length less than three-twentieths of an inch.

Closely allied to *C. lineatus* of Europe, but differs in the color of the tergum. [188]

EPHYDRA Meig.

E. HANS.—Cinereous ; front dark bluish.

Inhabits Mexico.

Body dark cinereous : front and vertex dark bluish : antennæ black-brown ; second joint as long as the third ; seta thick at base, slender at tip : hypostoma hairy : thorax with a slight green reflection : scutel also with a slight green reflection : tergum the same.

Length nearly one-fifth of an inch.

LONCHÆA Fall.

L. POLITA.—Black ; tarsi white.

Inhabits Indiana.

Body shining black, with a very slight tint of blue hardly perceptible : antennæ as long as the hypostoma ; terminal joint more than three times as long as the two others together, at its base under the seta obscure honey-yellow : hypostoma with a slight gray reflection : wings hyaline ; nervures pale brownish : tarsi yellowish-white, last joint dusky.

Length more than three-twentieths of an inch.

[From Vol. 6, 1830, pp. 235—244.]

Descriptions of new North American HEMIPTEROUS INSECTS, belonging to the first family of the section HOMOPTERA of Latreille.

CICADA Oliv. Latr. Germ.

1. *C. HIEROGLYPHICA.*—Greenish ; head and thorax litterate with black.

Inhabits Pennsylvania and New Jersey.

Body greenish : head rounded before ; bifasciate with black before the eyes ; from the superior band proceed four black lines 1830.]

upon the vertex, the exterior ones abbreviated, the others double and including the superior stemmata, whence they proceed single to the occiput: thorax with several black lines, the middle one double and angulated on the exterior side: scutel with eight or ten black lines and curves: hemelytra hyaline, with three or four brown anastomoses, and near the tip of each nervure a brown dot; costal nervure and nervures towards the base green, edged with a very slender black line: posterior tibiæ with the four spines in pairs, perfectly opposite; the fifth spine very near the terminal spines; beneath immaculate.

Length to tip of hemelytra one inch and one-fourth.

This species is rather rare.

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2. *C. RIMOSA*.—Black; posterior edge of the thorax rufous.

Inhabits Missouri and Arkansas.

Body black above: head a little angulated before: hypostoma with the double middle line or lateral margin rufous; a rufous spot over the antennæ; thorax obsoletely varied each side with piceous; posterior and lateral edges rufous: scutel with the elevated cruciform line, two spots before it, and two or three on each side rufous: hemelytra without any margined anastomosis; the cellules much undulated: tergum, posterior edges of the segments rufous: beneath rufous, varied with black: posterior tibiæ with four equidistant spines in one longitudinal series, and two remote ones in another.

Length to the tip of the hemelytra one inch and one-fourth.

Mr. Nuttall presented me two specimens, which he obtained on the Missouri, and I found one on the Arkansas.

On the prominent middle of the hypostoma in a very obvious impressed line.

This species is nearly as large as the *C. septendecim* Linn., from which however the above description will distinguish it.

3. *C. VITRIPENNIS*.—Hemelytra vitreous immaculate; anterior thighs, posterior spine hardly oblique.

Inhabits Arkansas.

Body blackish above: head with a rufous anterior line between the eyes and posterior margin: hypostoma [237] convex, no longitudinal impressed line; greenish with a blackish disk: thorax with a large lateral rufous confluent spot, central line and

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posterior margin: scutel with four rufous lines, the two inner ones connected anteriorly by a rufous W: hemelytra very transparent, immaculate: tergum posterior edges of the segments rufous: beneath greenish: venter, segments at base and each side black: anterior thighs with the posterior spine not larger than the anterior one, and but little oblique: posterior tibiæ with four equidistant spines in one series, and two remote ones in another series.

Length to the tip of the hemelytra one inch and one-fourth.

Presented by Mr. Nuttall from the Arkansaw.

FLATA Fabr.

1. *F. PRUINOSA*.—Plumbeous; hemelytra vertical, with a blackish spot or two before the middle.

Inhabits the United States.

Body above plumbeous or with a hoary pubescence: head not prominent before: hypostoma greenish-yellow, the lateral edges prominent and extending a little further down than the antennæ, an abbreviated, elevated line above: hemelytra vertical, with from one to four spots before the middle; inner margin towards the base with elevated points: beneath yellowish-green.

Length to tip of hemelytra less than one-third of an inch. [238]

A common species. Beneath the pruinose covering the hemelytra are fuscous.

2. *F. CONICA*.—Greenish; hemelytra, nervures not radiating on the margin.

Inhabits Indiana.

Body greenish-yellow: head a little prominent, angulated before: vertex flat, horizontal: hypostoma simple: thorax and scutel simple: hemelytra vertical; nervures prominent, obvious; no radiating nervures on the margin; color green; edge at tip alternating with brown.

Length to tip of hemelytra less than half an inch.

In the verticle position of the hemelytra, the *pruinosa* and *conica*, together with the *bivittata* nob., resemble the *relicta* Fabr.

3. *F. NAVA*.—Cinereous varied with fuscous; nervures spotted; hypostoma with a black band.

Inhabits Indiana.

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Head small; front with three elevated lines, lateral line spotted, middle of the hypostoma white with a broad black band: thorax very short, almost lineolar, angulated: scutel large, tricarinate, with a large blackish spot occupying the greater portion: hemelytra grayish; nervures spotted with black, particularly the costal, on which is a larger one near the tip; intermediate tibiæ biannulate with blackish.

Length to the tip of hemelytra nearly one-fourth of an [339] inch.

Var. a. Spots of the hemelytra obsolete: body yellowish: hypostoma bifasciate with black.

Var. b. Hemelytra immaculate.

In this species the tip of the hemelytra is a little dilated inwards so as to lap over when at rest, and the scutel is not longer than the thorax.

4. *F. OPACA*.—Blackish; beneath with a white vitta; head a little advanced.

Inhabits near Lake Erie and Indiana.

Body, above, brown-black: head, before the eyes, equal in length to the diameter of the eye; hypostoma with the central line and lateral edge elevated; on the middle a whitish band: vertex with an impressed longitudinal line; tip rounded: thorax with an elevated line: scutel with three elevated lines, the lateral ones a little arquated: hemelytra opaque, irrorate with minute white points; dilated towards the inner tip so as to lap over the opposite one; a quadrate whitish spot beyond the costal middle, and one or two smaller ones nearer the tip: pleura with a lateral whitish vitta: feet black: venter blackish.

Length to tip of hemelytra over two-fifths of an inch.

This is a fine species, and was obtained by Mr. Isaiah Lukens.

The hemelytra are dilated inwards near the tip, as in *nava*, but the scutel is more than as long again as the thorax, and the head is differently formed before. I have recently found a specimen in Indiana. [240]

5. *F. PALLIDA*.—Pale brownish; beneath yellow; head a little advanced.

Inhabits Pennsylvania and Florida.

Body, above, pale brownish-yellow: head, before the eye, [Vol. VI.]

rather longer than the longitudinal diameter of the eye : eye oval hypostoma, elevated line obsolete, excepting near the superior tip ; superior half yellow, inferior half dusky ; each side before the eye dusky, the bounding line passing under the eye : vertex with an impressed line : scutel as long again as the thorax, three lined, the lateral ones a little arquated : hemelytra with about eight or ten remote brown points : pectus on the superior half blackish.

Length to the tip of the hemelytra less than two-fifths of an inch.

Resembles *opaca* ; the hemelytra being dilated and the head prominent as in that species.

6. F. BULLATA.—Hypostoma with an oval elevated line on the disk.

Inhabits the United States.

Hypostoma with an elevated line longitudinally in the middle, each side of which is another elevated, much arquated line, forming an oval, and all confluent above, with a transverse line at tip of the head : vertex with a line behind : thorax with two impressed punctures : scutel not longer than the thorax : hemelytra brown-cinereous, sub-bifasciate with black and bullate near the costal margin before the middle. [241]

Length to tip of hemelytra over one-fourth of an inch.

In form it resembles the *cynosbat's* Fabr., and the two following species.

7. F. QUINQUELINEATA.—Scutel five-lined : nervures punctured with black.

Inhabits New Jersey.

Body yellowish : hypostoma with the longitudinal line and lateral edges elevated, the former somewhat bifid above : scutel with five, distinct, elevated lines ; hemelytra with the nervures minutely punctured with blackish ; hyaline slightly clouded with ferruginous towards the tip, and with an obsolete band before the middle ; a more obvious fuscous dot towards the tip of the costal.

Length to tip of hemelytra three-tenths of an inch.

Occurred on *Pinus rigida* early in August,

1830.]

8. *F. HUMILIS*.—Blackish; scutel five-lined.

Inhabits Pennsylvania.

Body brownish-black: hypostoma with a central elevated line and lateral edges: vertex with a whitish spot each side: thorax narrow: scutel with five elevated lines: hemelytra with brown nervures, those near the tip fuscous: feet and tip of the venter yellowish.

Length to tip of hemelytra over three-twentieths of an inch.

Resembles *quinquelineata*, but is much smaller and differently colored and marked. [242]

MEMBRACIS Fabr. Germ.

1. *M. TARTAREA*.—Black; hemelytra hyaline at tip.

Inhabits Pennsylvania.

Head and thorax black, polished, immaculate; the latter simple, slightly elevated: tip acute, rather slender and greenish: hemelytra with the four apical cellules hyaline, excepting that the including nervures are margined with fuscous: feet greenish: thighs tinged with rufous: abdomen green: venter segments at their bases dusky.

Length to tip of hemelytra less than one-fifth of an inch.

2. *M. SEMICREMA*.—Green; head and anterior thoracic disk black.

Inhabits Florida.

Head black, a green band between the anterior angles of the eyes: thorax little elevated, simple, green, with a large black anterior disk; tip rather slender, acute: hemelytra hyaline; nervures mostly blackish; three terminal cellules subequal, rather broader than long: beneath yellowish-green.

Length to tip of hemelytra less than one-fifth of an inch.

Somewhat resembles *tartarea*.

3. *M. CALVA*.—Thorax simple, black; head greenish.

Inhabits Pennsylvania. [243]

Head greenish, more or less black at base: thorax simple, hardly elevated, black, polished, generally greenish at tip, which is not slender: hemelytra hyaline: nervures pale greenish: pectus black: feet greenish: thighs more or less black.

Length to tip of hemelytra less than three-twentieths of an inch.

A smaller species than the *tartarea* and *semicrema*, and the thorax is not so slender at tip. I obtained many specimens on *Eupatorium maculatum*, in the axillæ of the leaves, early in July.

4. *M. GONIPHORA*.—Thorax flattened before, subulate behind
Inhabits Missouri.

Above greenish, minutely reticulate with yellowish rufous: thorax greatly elevated, flattened before so as to form an acute line each side, which meet at the greatest elevation, rather before the middle, from whence the curvature descends by an acute carina to the tip, which is subulate and arquated: hemelytra, three terminal cellules unequal.

Length to tip of hemelytra three-tenths of an inch.

Several specimens were presented to me by Mr. Nuttall, who obtained them during his voyage up the Missouri river.

5. *M. FESTINA*.—Thorax with a subacute line each side before, meeting behind the middle.

Inhabits Florida.

[244]

Body yellowish-green: thorax unarmed, carinate behind; at tip attenuated, subulate and complying with the general curvature; each side before a carinate line, meeting together at the carina behind the middle, and with the carina tinged with rufous; front of the thorax not altogether flat, but a little convex: hemelytra, three terminal cellules unequal; the two costal ones equal, as broad as long; the inner one not obviously larger than the others together, somewhat longer than broad.

Length to tip of hemelytra one-fifth of an inch.

The lateral prominent lines of the unarmed thorax, separate this species from all those which I have described excepting *goniphora*, which, however, is larger, the thorax more elevated, and the lateral lines meet before the middle of the length of the back.

[Continuation from vol. 6, 1831; pp. 299—314.]

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6. *M. VAU.*—Thorax with an oblique band before the middle, and transverse one near the tip.

Inhabits Pennsylvania.

Thorax not greatly elevated, rounded and unarmed before, carinate acutely from before the middle to the posterior tip; tip hardly reaching the end of the nervures of the hemelytra; a whitish, very oblique band, edged with fuscous, crosses the back before the middle, and reaches the lateral edge behind the middle; near the tip a transverse band, and between the two bands a whitish spot; hemelytra, a little fuliginous at base and tip; three terminal cellules unequal, the inner one being as large as the two others together.

Length to tip of hemelytra one-fourth of an inch.

7. *M. INORNATA.*—Immaculate; thorax carinate; wings white.

Inhabits Pennsylvania.

Body greenish or yellowish-green: thorax acutely carinate, from near the anterior margin to the tip; not greatly elevated, rounded before, unarmed; tip not attaining the tip of the cellules of the hemelytra: hemelytra whitish; three terminal cellules [300] unequal, inner one larger than the two others together, terminal one almost oval transverse: oviduct dusky.

Length to tip of hemelytra one-fourth of an inch.

In form resembles *M. vau.*

8. *M. SUBULATA.*—Thorax subulate behind, carinate, with two obsolete whitish vittæ each side.

Inhabits Maryland.

Body yellowish, (green when recent); head a little unequal: eyes green, undulate with black: thorax rounded before; acutely carinate; towards the tip slender, acute; on each side two obsolete, whitish, impunctured lines; tip not reaching the three terminal cellules of the hemelytra: hemelytra, three terminal cellules rather broader than long, subequal.

Length to tip of hemelytra more than one-fifth of an inch.

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The tip of the thorax is still more attenuated than that of the *bubalus* Fabr.

9. *M. QUADRIVITTATA*.—Thorax quadrilineate with sanguineous.

Inhabits Maryland.

Body pale yellowish-green: head trifasciate with black: thorax gibbous, with a rounded tubercle over the origin of the hemelytra; four sanguineous vittæ extending near to the middle, the lateral ones oblique; four transverse black spots before, and a dorsal impunctured line; tip acute: hemelytra [301] hyaline; nervures fuscous, greenish towards the base and basal costal margin: tergum, segments black at base: venter black at base: pectus sanguineous each side, disk with large black spots.

Length to tip of hemelytra two-fifths of an inch.

Several specimens occurred on the eastern shore of Maryland, cast up by the waves.

10. *M. MERA*.—Unarmed; thorax fasciate with fuscous beyond the middle; tip dull sanguineous.

Inhabits Pennsylvania.

Body greenish: head immaculate: thorax almost regularly arquated above, with a fuscous band, rather behind the middle; tip dull sanguineous: hemelytra fuscous at tip; nervures with narrow fuscous edges: feet tinged with rufous.

Length to the tip of the hemelytra less than two-fifths of an inch.

The thorax has no angulated appearance before, but is obtusely rounded before, and behind the middle, and more obtusely so above. In the 4-*vittata* the thorax declines rectilinearly from near its greatest elevation to the tip without the slightest concavity, whereas in the present species the thorax, beyond the band, declines somewhat abruptly, beyond which it still declines, but rectilinearly to the tip. The tip of the thorax extends as far as the nervures of the hemelytra.

11. *M. MARMORATA*.—Above marbled with rufous and yellow.

Inhabits Pennsylvania.

[302]

Head rufous with yellow spots: thorax regularly arquated above, behind the middle the line of curvature is a little concave; tip nearly as long as the nervures of the hemelytra: 1831.]

hemelytra tinged with rufous at base and fuliginous at tip; feet rufous.

Length to the tip of the hemelytra three-tenths of an inch.

In general form it resembles *M. mera*, but it is shorter, and the tip of the thorax is considerably shorter in proportion.

12. *M. ARQUATA*.—Thorax simple, quadrilineate with fuscous. Inhabits Pennsylvania.

Thorax cinereous, tinged with rufous on the back, each side of which is a fuscous somewhat undulated line, confluent with the margin behind the middle; exterior to the fuscous line is a cinereous arquated line within which is an abbreviated marginal fuscous line: back not much elevated, simple; tip terminating more obtusely than usual and with a cinereous spot above: hemelytra hyaline, with a dusky base, and fuliginous spot in the middle and at tip; nervures margined with brown; terminal cellule smaller than either of the two adjoining ones and transverse: thighs blackish.

Length to tip of hemelytra over one-fifth of an inch.

Resembles the *picta* as represented by Coquebert.

13. *M. BELLIGERA*.—Thorax with a projecting horn; tip slender, acute.

Inhabits Pennsylvania and Florida.

[303]

Thorax green, with small, fulvous spots; a compressed horn before, which is not in the slightest degree arquated, at its extremity rounded; back not carinated, but with an impunctured line; tip slender, and equally slender when viewed laterally as from above, acute: hemelytra hyaline, at base varied with green and yellow; terminal nervure about three times longer than wide.

Length to tip of hemelytra and tip of the horn half an inch.

Resembles *bimaculata* Fabr., but the tip of the thorax is much more attenuated and acute and the terminal cellule of the hemelytra is elongated.

In addition to the *bimaculata* F., *sinuata* F., *emarginata* F., we must place in this genus, his *Centrotus bubalis*. The *Centrotus acuminatus* of that author, is only the female of his *Membracis bimaculata*. His *sinuata* does not appear to me to differ specifically from the *emarginata*.

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CERCOPIS Fabr. Germ.

C. BICINCTA.—Sanguineous; wings fuscous, bifasciate.

Inhabits Indiana.

Body sanguineous: rostrum blackish at tip: antennæ blackish: vertex with an obsolete dusky band: thorax blackish, edged with sanguineous, except on the posterior part; a rufous band on the middle: scutellum blackish, sanguineous each side: hemelytra [304] blackish, with two yellow or rufous, narrow bands: humerus sanguineous: pleura with one or two large black spots: abdomen, disks of the segments blackish: thighs beneath, and tarsi blackish.

Length to the tip of the hemelytra two-fifths of an inch.

Resembles the *rubra* Linn., and *sororia* Germ., but is sufficiently distinct. It frequently occurs in this State, [Indiana] sometimes in Pennsylvania, and Mr. Nuttall gave me a specimen which he obtained in Arkansas.

APHROPHORA Germ.

1. A. BILINEATA.—Grayish; hemelytra with a black abbreviated line from the humerus.

Inhabits Missouri.

Body above gray: head with an obsolete, double, brownish line: ocelli not very distinct: eyes trilineate with dusky: antennæ with a fuscous spot at tip: thorax with a hardly perceptible, double, brownish line, and another behind the eye: hemelytra with a longitudinal blackish line from the humerus, parallel with the costal margin, abbreviated at the middle; costal margin whitish: tergum black; lateral edge and tip yellowish: beneath yellowish.

Length to tip of hemelytra less than one-fourth of an inch.

2. A. QUADRINOTATA.—Pale; hemelytra dusky, with two large hyaline costal spots.

Inhabits the United States.

[305]

Body pale yellowish: head, on the anterior margin beneath, with black spots: rostrum black at tip: stemmata sanguineous: vertex with a longitudinal, slightly elevated line: thorax rather darker behind, and with a slightly elevated longitudinal line: 1831.]

hemelytra pale brownish, with two large white or hyaline costal spots, which are margined with fuscous.

Length to the tip of the hemelytra nearly three-tenths of an inch.

To this genus, as formed by Germar, belong the following species which I formerly published, viz.: *Cercopis parallela*, *Cercopis quadrangularis*, *Cercopis obtusa*.

JASSUS Fabr. Germ.

J. INIMICUS.—Head with two dots, thorax with a transverse series of dots.

Inhabits Virginia.

Body pale, with a yellowish or greenish tinge: head with a black dot each side at tip; hypostoma with transverse fuscous interrupted lines: thorax with a transverse, arquated series of about four fuscous points on the anterior margin; posterior disk a little dusky: scutel with a black abbreviated line each side at base, an obsolete, double, diverging line in the middle: hemelytra hyaline, with brown nervures: tergum blackish, margin yellow. [306]

Length to tip of hemelytra over three-twentieths of an inch.

Var. a. Hemelytra with the cellules edged with fuscus; nervures whitish.

When in the larva state this species is said to depredate on the roots of wheat. Several specimens were sent me by Professor Green, in the year 1822, who received them from a farmer of Virginia.

2. J. ACUTUS.—Head elongated, acute; thorax five-lined.

Inhabits Indiana.

Body above with minute, brownish reticulations: head much elongated, as long as the thorax and half the scutel; with about three gray lines consisting of the absence of reticulations: thorax about five-lined: hemelytra with larger reticulations, enclosing whitish spots which are somewhat larger on the costal margin: beneath blue black; disk of the head yellow; feet yellowish, spotted with black.

Length to tip of hemelytra nearly one-fifth of an inch.

3. J. IMMISTUS.—Head yellow, with green bands before and a cupreous one above; wings reticulated.

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Inhabits Indiana and Missouri.

Head pale yellow; a brown subcupreous band between the anterior angles of the eyes, a slender green one near the anterior edge complying with its curvature, and at least two green slender bands beneath the anterior edge: antennæ with a somewhat elongated seta: thorax bifasciate with subcupreous, first band partly concealed by the head, the other interrupted in its middle; scutellum subcupreous on its basal half; hemelytra bluish-white, fuscous at base and tip, and reticulate with fuscous in the middle; the fuscous portion have a subcupreous, brilliant reflection; wings whitish, with brown nervures: pectus immaculate; feet pale yellowish; posterior thighs greenish, their tibiae with a series of green points and tip, their tarsi green in the middle.

Length to tip of hemelytra more than one-fifth of an inch.

4. *J. SEMINUDUS*.—Hemelytra white with a large brown band.

Inhabits Indiana.

Body yellowish-white: head before rounded, obtuse, nearly parallel to the posterior edge: thorax and scutellum obsolete spotted with greenish: hemelytra whitish, somewhat opalescent; a broad common brown band on the middle, partially edged with fuscous and a brownish spot near the costal tip: tergum blackish each side on the middle: beneath immaculate.

Length to tip of hemelytra over one-fifth of an inch.

5. *J. SANCTUS*.—Hemelytra white, with a common brown cruciate mark.

Inhabits Indiana.

Body yellowish-white: head subacute, with two [308] minute fuscous points near the tip and an undulated line on the anterior edge: thorax dusky across the middle: hemelytra white, somewhat opalescent, with a common large cruciform mark on the middle, composed of brownish spots with blackish edges and including a whitish common spot; tip with large spots: venter with a dusky band and small lateral spots: feet immaculate.

Length to tip of hemelytra nearly one-fifth of an inch.

6. *J. VERTICIS*.—Vertex hardly as long as half the greatest diameter of the eye.

Inhabits Missouri.

Body beneath yellow, immaculate: vertex remarkably short, 1831.]

wide, irrorate with fuscous, not so long as half the greatest diameter of the eye: eyes small, remote: thorax yellowish, irrorate with fuscous; scutel yellowish, irrorate; two obsolete darker spots at base: hemelytra fuscous; a hyaline spot on the middle of the inner margin, and a hyaline band, sometimes interrupted, near the tip; costal margin whitish: tergum blackish with a yellow margin: feet white.

Length to tip of hemelytra nearly one-fifth of an inch.

7. *J. IRRORATUS*.—Varied with whitish and brown; hemelytra reticulate.

Inhabits the United States.

Body whitish-gray, irrorate with small, irregular [309] numerous, fuscous spots: head with the anterior and posterior edges parallel: scutel more dusky on the lateral margin: hemelytra subopalescent, reticulate with fuscous, with four or five darker spots on the costal margin towards the tip; pectus and pleura not irrorate, but with a few blackish spots: thighs fasciate and tibia spotted with fuscous or blued-black: tergum blackish; margin yellow with an abbreviated fuscous line on each segment.

Length to tip of hemelytra three-tenths of an inch.

A common species; I have obtained it in Pennsylvania, Indiana, Florida, and Missouri.

8. *J. CLITELLARIA*.—Hemelytra blackish, with a common yellow spot, and costal margin.

Inhabits Indiana.

Body pale yellow: head with two black dots before, and a broad black band at base, occupying half the clypeus: thorax, posterior half black: scutel black: hemelytra black, with a very large subovate, common yellow spot: a broad vitta on the costal margin, gradually attenuated to the humerus and truncate at the opposite extremity; tip and terminal third of the inner margin brown: beneath pale yellow.

Length to the tip of the hemelytra one-fifth of an inch.

9. *J. NOVELLUS*.—Vertex with a series of five black dots.

Inhabits Indiana.

[310]

Body blue-black: head yellowish: hypostoma varied with fuscous lines: vertex with five black dots in an arquated series: thorax with a yellowish disk, in which are a longitudinal line and

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two dots : scutel edged with yellow : hemelytra dusky, with pale nervures : an opalescent spot on the costal middle : feet yellowish.

Length to tip of hemelytra less than three-twentieths of an inch.

10. *J. OLITORIUS*.—Head yellow ; hypostoma bilineate with red . Inhabits Pennsylvania.

Head yellow ; a longitudinal red vitta each side on the hypostoma ; thorax and scutel black-blue, edged with dull rufous ; hemelytra brownish bronze ; nervures fuscous : pectus and venter black ; sutures dull yellowish : anterior and intermediate feet pale yellow : posterior thighs blued-black with yellowish tip, their tibiæ blued-black with yellow spines, their tarsi dull yellowish.

Length more than one-fourth of an inch.

J. SUBBIFASCIATUS.—Brown ; hemelytra bifasciate with whitish.

Inhabits Pennsylvania.

Body clear light brown : head yellow, with a capillary black line on the vertex, and two rufous, subarquated lines on the hypostoma : scutel with about four obsolete, dusky small spots : hemelytra with a whitish band almost interrupted, behind the middle, and an abbreviated band before the middle, [311] on the second short nervure of the thinner margin and extending to the third nervure ; nervures fuscous : pectus with large black spots.

Length ♀ to the tip of the hemelytra three-tenths of an inch.

TETTIGONIA Latr. Germ.

1. *T. OCCATORIA*.—Yellowish-green, lineate with fuscous.

Inhabits Indiana.

Body above yellowish-green : head with a black point at tip ; above five-lined : exterior lines submarginal, passing over the stemmata, second pair of lines confluent before and not reaching the tip ; central line very small, abbreviated, basal : thorax also five-lined, corresponding with the lines of the head, and the three inner ones passing upon the scutel : hemelytra lineated with yellowish-green and fuscous, the two inner fuscous lines corresponding with the two exterior lines of the thorax ; tip blackish with a yellowish band : wings blackish.

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Length to tip of hemelytra one-fourth of an inch.

2. *T. VERSUTA*.—Yellow ; head, scutel and hemelytra lineate with dark green.

Inhabits the United States.

Body yellow : head with a blackish-green anterior edge ; above tinged with fulvous on the disk, with a submarginal, dark green line each side, which is interrupted and diffracted behind the middle, and does not reach the tip of the head, near which it joins a double, obsolete line, which passes over the [312] middle of the head : thorax with a large green spot : scutel with several dark green lines : hemelytra with three oblique green vittæ and blackish dots on the apical margin : tergum dusky, or blackish with lateral yellow triangles.

Length to the tip of the hemelytra less than one-fourth of an inch.

3. *T. QUADRIVITTATA*.—Hemelytra sanguineous with oblique green vittæ and margin.

Inhabits the United States.

Body yellow : head with a blackish anterior and lateral edge passing through the eyes : thorax rufous, anterior and posterior margins green, the latter connected with a yellowish lateral spot, and a dorsal green vitta which is abbreviated before : scutel rufous : hemelytra sanguineous, with a green margin and two oblique green vittæ, of which the inner one proceeds from the humerus to the inner margin, and the other is abbreviated and partially twice interrupted : tergum sanguineous.

Length to the tip of the hemelytra more than three-tenths of an inch.

Very closely allied to *A. bifasciata* Linn., of Europe, but that species is much more hairy ; in the 4-*notata* all the nervures of the hemelytra are distinctly visible.

4. *T. MOLLIPES*.—Yellow ; hemelytra green with a pale margin.

Inhabits the United States.

Body yellow : head elongated, acute before ; beneath the eyes a brown line, which is continued on [313] the pectus : thorax green, a broad anterior and lateral yellow margin : scutel greenish-yellow : hemelytra green ; nervures paler ; exterior and api-

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cal margins pale yellow or whitish; a pale yellowish, capillary, oblique line from the humerus to the inner margin: tergum black-purple, lateral edge and tip yellow.

Length to the tip of the hemelytra over three-tenths of an inch.

A common species.

5. *T. BIFIDA*.—Green, head and thorax banded; and hemelytra lineated with blackish.

Inhabits Indiana.

Vertex white with a central, transverse, dark green, abbreviated line; prominent tip of the head with a dark green spot; labrum yellowish, at tip dusky: thorax, anterior margin and posterior submargin, with a transverse dark green transverse line, anterior submargin and posterior margin with a white transverse line: scutel on the edge and a central, transverse, abbreviated line dark green: hemelytra with six rather oblique dark green lines, the exterior one bifid at tip: beneath blackish: feet pale.

Length to the tip of the hemelytra about one-fifth of an inch.

6. *T. HIEROGLYPHICA*.—Dull rufous; head and scutel lineated; hemelytra spotted.

Inhabits Arkansas.

Body obscurely dull rufous: head with a black dot at tip, above literate with black: thorax with a [314] dusky posterior disk: scutel with black more or less curved lines: hemelytra obsoletely spotted, nervures being pale: beneath pale yellowish: pectus with large black spots: feet immaculate: tergum blue-black, edge yellow.

Length to tip of hemelytra one-fifth of an inch.

Agreeably to the arrangement of Germar, the following of my published species, may be placed in this genus, viz:

Cercopis obliqua, *C. basilaris*, and *C. comes*; as well as the following species of Fabricius, viz: *Cicada undata*, *C. irrorata*, and *Cercopis costalis*.

The species which I published under the name of *Cicada mixta*, has the same relation to this genus as the *C. costalis* of Panzer.

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[From Vol. 8, 1839, pp. 9—46.]

Descriptions of New North American **NEUROPTEROUS INSECTS**, and Observations on some already described.

Read July 12th, 1836.

ÆSHNA Fabr.

† Eyes in contact above.

1. **Æ. MULTICINCTA**.—Reddish-brown; thorax with green lines and spots; abdomen with green bands and lateral vitta.

Inhabits Indiana.

♀ Body reddish-brown; eyes connate, dull greenish above, with a semiocellate blackish mark, and on the posterior margin pale bluish, including a black line; inferior portion tinged with gray, and with several moveable internal spots; frontal vesicle dull whitish, above reddish-brown, dull yellowish in the middle, with a quadrate blackish spot; [10] thorax with two anterior green lines, and on the pleura beneath each wing, also a green oblique line, between the bases of the wings are green spots; wings immaculate, tinged with ferruginous, carpal spot fuscous; accessory membrane opaque white; abdomen with a lateral, angulated and almost interrupted green vitta; segments with a double green, sutural, narrow band, and in the middle of each, another narrow band, excepting the three ultimate ones, on which are but single sutural bands; caudal foliaceous processes blackish, somewhat dilated in the middle, gradually narrowed to each extremity, and rounded at tip; feet black; thighs rufous at base.

Length three and three-fifths inches to tip of caudal appendices.

The abdomen tapers gradually from the base to the tip. The description is taken from a recent specimen.

[This species, which is common throughout the United States, has usually been referred to the *heros* of Fabricius.—ED.]

[This is *Æ. heros* Fabr. Ent. Syst. Suppl. 285.—UHLER.]

Æ. JUNIUS.—Green; abdomen brown, laterally bluish; wings immaculate.

L. Junius Drury, Vol. 1, pl. 47, fig. 5.

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♂ Body bright green; eyes brown, tinged behind and beneath with yellowish; labium yellowish; antennæ and intervening line black; frontal vesicle above with an arcuated blue line and central black dot: wings immaculate; carpal spot pale brown: posterior wings, next to the body and behind the nervures, with a small opaque white spot, terminated by a black, broad line; feet rufous; tibiæ and tarsi [11] black; abdomen with a dorsal and lateral interrupted raised line; brown above, with a lateral, interrupted blue vitta, originating with the second segment; first and second segments bright green; venter tinged with brown, with a blackish vitta; foliaceous appendices carinate, at the exterior tip prominent mucronate.

Length three inches.

♀ Wings with a trace of ferruginous on the anterior portion; foliaceous appendages rather smaller, lanceolate, acute.

Drury in his figure represents the abdomen as entirely green; but this is a mistake; his dried specimen had this part brown, and supposing it to have been green when living, he figured it so. Can this be *vesiculosa* L.? It is allied to the *formosa* Vanderlinden, which, however, appears to have a black, angulated, dorsal vitta on the abdomen, and the eyes are described to be green.

[Belongs to the genus *Anax* Leach.—UHLER.]

3. *Æ. CONSTRICTA*.—Abdomen contracted near the base, elongated, with interrupted bands; anal processes undulated and prominently mucronate.

Inhabits Indiana.

♂ Eyes in contact above; occiput black, with a yellow spot between the eyes; front greenish-yellow; between and behind the antennæ, with the exception of a yellow transverse spot black, connected anteriorly with a transverse black line; stethidium brownish, varied with greenish vittæ before, and oblique ones on the pleura, and spots on base of the wings; wings hyaline, a little lactaceous; stigma moderate, black; anal membrane [12] black, white at base; abdomen elongated, fuscous, with somewhat glaucous interrupted bands and spots; two basal segments thick, the second with a narrow interrupted band: third remarkably contracted in the middle, with two small transverse

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spots, and on the posterior margin an interrupted band ; remaining segments having the same markings as the third, together with a large double lateral longitudinal spot, excepting the ultimate and the caudal segments, which have only the posterior interrupted band ; caudal segments two-thirds the length of the preceding one ; anal processes as long as the two preceding segments, undulated, foliaceous, with a longitudinal line in the middle, dilated on the inner edge beyond the middle, near the inner tip, hairy, and with a tooth, and rounded prominence ; at tip rounded, with a prominent cylindric spine ; inferior process half the length of the superior ones ; feet piceous, or blackish ; anterior thighs with a glaucous line behind.

Length less than three inches.

The third abdominal segment is remarkably contracted. The posterior interrupted bands might be called rounded or quadrate spots, and are largest and more glaucous on the posterior segments. It resembles *Libellula tenebrosa* ?

4. *Æ. CLEPSYDRA*.—Abdomen contracted near the base, with interrupted bands ; anal processes foliaceous.

Inhabits Massachusetts.

This is so much like *constricta* S., that it may possibly prove to be a variety. Nevertheless, the anal [13] appendices are very different. These are foliaceous, oblong-oval, gradually narrowed at base, with a small angle at tip ; upper side with a carinated line ; caudal segment of the abdomen with an elevated compressed tooth near its base above.

Length less than three inches.

The only individual I have seen was sent me by Dr. Harris.

5. *Æ. VINOSA*.—Abdomen contracted near the base ; wings very slightly tinged with ferruginous ; stigma yellowish ; pleura with two bright yellow orbicular spots.

Inhabits Massachusetts. Harris.

Length over two inches and a half.

Resembles *clepsydra* S., very closely, but it may be distinguished by the color of the wings and stigma, the bright orbicular spots of the pleura, the yellow antennæ, and the absence of black markings in the summit of the frontal vesicle. The anal

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processes resemble those of *clepsydra*, and the neck of the wings is fuscous as in *janata* S.

[This is *Æ. 4-guttata* Burm. Handb. 2, 837.—UHLER.]

6. *Æ. JANATA*.—Wings immaculate; abdomen contracted near the base, banded; anal processes at tip unarmed, pediform.

Inhabits Massachusetts.

♂ Eyes in contact above; occiput dusky; posterior canthus of the eyes dull yellowish; space between the eyes transversely triangular, depressed, dusky, excepting the posterior edge, which is yellowish, and is a raised line; antennæ and vertex black, excepting a transverse, obscure, arcuated line; front yellow; [14] summit with a black line and anterior margin; thorax brown, two dull glaucous vittæ before; pleura, two oblique yellow vittæ, margined with black; wings hyaline, immaculate; basal neck fuscous; anal membrane white; stigma dull yellowish; abdomen dusky; third segment deeply contracted; segments with a yellowish band at base, interrupted one at tip, and spot in the middle; caudal segment but little shorter than the preceding one, and carinate at base, beneath with the lateral tubercles of the second segment compressed and denticulated; caudal processes a little undulated, being slightly dilated beneath near the base, and more obviously so towards the tip, so as to be pediform; tip unarmed; inferior process hardly half as long as the superior ones; feet yellowish, blackish beneath.

Length over two inches.

Sent to me by Dr. Harris. I have not seen the female.

It resembles *constricta* S., but is smaller, the caudal segment is subequal to the preceding segment, and the superior caudal processes are suddenly enlarged near the tip, and are unarmed.

7. *Æ. FURCILLATA*.—Inferior anal process widely forked at tip.

Inhabits Massachusetts.

♂ Body brownish; pleura with three oblique, yellow lines; between the wings varied with whitish; wings immaculate, anal membrane white; stigma fuscous; abdomen, third segment very much contracted; segments with a double spot at tip, a [15] smaller double one in the middle, and a triangular spot at base; anal processes narrow, foliaceous, on their basal half subcylindrical. 1839.]

cal, with two small distant teeth on the inner inferior side; beyond the middle rectilinear, flattened, sides parallel, rounded at tip; inferior process about half as long as the superior pair, wide, widely emarginate down to its middle.

Length over two inches.

This may readily be distinguished by the widely forked form of the inferior caudal process. I have seen but the individual sent me for examination by Dr. Harris.

[Subsequently described as *Gynacantha quadrifida* Rambur, Neuropt. 209.—UHLER.]

8. *Æ. OBLIQUA*.—Thorax brown, with two oblique yellow vittæ before; front yellow, with a black band.

Inhabits Indiana.

Eyes angularly contiguous above; front greenish-yellow, with a black band; antennæ black; space between the antennæ and region of the stemmata black; occiput dull yellowish; occipital interval tuberculiform, greenish-yellow; posterior upper canthus of the eyes black, passing in a hairy ridge to the top of the occipital tubercle; stethidium fuscous; two yellow oblique vittæ before; middle between the wings with a yellowish spot; pleura with two distant, parallel, oblique, yellow vittæ, margined with black; wings hyaline, immaculate; stigma black; anal membrane white; abdomen blackish, a dorsal series of yellowish spear-shaped marks, those of the two posterior segments dilated, the last one quadrate: anal appendices not longer than the [16] anal segment, mucronate; inferior process as broad at its tip as the tip of the abdomen, and widely more or less emarginated: beneath, first and second abdominal segments pale, the lateral tubercle rounded, unarmed; feet black.

Length about two and a half inches.

Var. a. Dorsal series of the abdomen none; a lateral series of dull yellowish, oblong, subtriangular spots.

This variety was sent to me by Dr. Harris. I have not seen the female.

[Subsequently described as *Cordulegaster fasciatus* Rambur, Neuropt. 178.—UHLER.]

† † Eyes distant above.

9. *Æ. FRATERNA*.—Wings immaculate; thorax yellowish, with

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brown lines ; abdomen brown, with a yellow vitta ; dilated at tip.

Inhabits the United States.

Length less than two inches.

♂ Head greenish-yellow ; eyes distant above ; labrum with an indented point in the middle ; between the eyes a black band, including the stemmata and antennæ ; thorax greenish-yellow, with three double fuscous vittæ ; between the wings a greenish-yellow vittæ ; wings immaculate ; costal nervure greenish ; carpus fuscous small, the transverse line of its base passing obliquely across the second series of cellules ; accessory membrane very small ; abdomen dark fuscous, cylindrical, thicker at base, and much dilated at tip ; a dorsal yellowish line, interrupted by the incisures, wider on the basal segment, and exhibiting a spot only on two of the dilated segments ; anal appendices four, short, subulate : sides of the abdomen with a dilated [17] yellowish vitta on the basal segment, on which is also a lateral tubercle ; remaining segments with a spot on the base of each, those on the dilated segments are much larger, that on the terminal segment occupying all the side, yellow and conspicuous ; pleura green-yellow, with two oblique, fuscous lines ; feet fuscous : tibia with a dull green line ; the dilated tip of the abdomen is very concave beneath.

♀ Tubercles of the basal segment of the abdomen obsolete ; abdomen at tip somewhat less dilated ; anal appendices two.

Length two inches.

Common in June, on the banks of the Wabash.

It resembles *forcipata* Fabr., closely, but the feet of that species are yellowish above ; the dorsal line of the abdomen is capitate on each segment, and on the basal segment trilobate.

It belongs to the genus *Gomphus* Leach.

10. *Æ. STIGMATA*.—♀ Body yellow ; stemmata rather large ; thorax with a double brown arcuated vitta before, each side of which is an abbreviated, oblique, brown line, and another brown line on the suture of the pleura ; wings with a very slight tinge of yellowish, at their origin ferruginous ; costal edge whitish, with two series of minute black points ; stigma rather large, blackish ; tergum, each segment excepting the basal and ultimate

ones, with a longitudinal spot each side, contracted in the middle and not reaching the base; terminal process conic, acute, not at all compressed; thighs with a brown line above towards the tip; tibia and [18] tarsi black-piceous; the former yellowish on the inner side; abdomen not remarkably clavated.

Length two inches.

This species resembles the *fraterna*, but it is much more yellowish, the stigma of the wings is about double the size, the markings differ. It also resembles *unguiculata* Vanderlinden, but the stigma is much larger.

[Belongs to *Gomphus* Leach.—UHLER.]

LIBELLULA.

1. *L. HYMENÆA*.—Wings hyaline; posterior wings with the anal margin brown, with white nervures; anal membrane white, opaque.

Inhabits Indiana.

♀ Vesicular front fulvous; stethidium dull yellowish-green; wings hyaline; stigmata small; posterior pair wider at base, the anal margin brown, particularly towards the anal angle, which, however, this color does not reach, neither does it attain to the origin of the wing, the nervures of this brown margin are yellowish-white; anal membrane opaque, pure white; scutell tricarinate; abdomen with a carinate line above, and on each side; second, third, fourth, and fifth segments with two transverse, elevated lines towards their middles; anal processes cylindrical, mucronate; feet blackish; anterior pairs of thighs greenish-white exteriorly; anterior pairs of tibiæ with a whitish line.

Length nearly two inches.

Readily distinguishable by the whitish nervures in the brown anal margin of the posterior wings, and the snow-white anal membrane. It seems to be allied to *L. carolina*. [19]

2. *L. CAROLINA* Linn.—Basal fifth of the posterior wings fuscous.

Length two inches.

Drury, Ins. Vol. 1, pl. 48, fig. 1. Ency. Meth. p. 565.

3. *L. TRANSVERSA*.—Thorax with a white band before the wings, and another between the wings.

Inhabits Massachusetts.

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♂ Body brownish; eyes contiguous above in a small part of their curvature; thorax with a yellowish-white band at the anterior base of the anterior wings, and a white band between the two pairs of wings, descending obliquely on the pleura, where it is yellow; wings hyaline; basal costal cellula brown; stigma slender, yellowish, not very obvious; anal membrane white; abdomen slender, wider near the tip; segments paler on the basal half; lateral carina none; anal processes lanceolate, slightly arcuated, exterior edge towards the tip minutely denticulate; inferior process nearly as long as superior the ones; tarsi blackish.

Length two inches.

Dr. Harris sent me a male specimen, I have not seen the female.

[Subsequently described as *Epophthalmia cinnamomea* Burm. Handb. 2, 2, 845: and *Didymops Servillei* Ramb., Neuropt. 142.—UHLER.]

4. L. TENEBROSA.—Wings immaculate; body greenish-black, with yellow lateral marks on the trunk.

Inhabits Indiana.

♂ Eyes bright emerald green, in contact above; front brownish towards the mouth, near the antennæ bright green, above the antennæ brownish; mouth beneath yellowish: vertex brownish; thorax dark [20] greenish, tinged towards the head and on the sides with vinaceous; an oblique yellowish line under each wing, and a yellowish spot each side behind; wings hyaline; stigma blackish; anal margin with a thick fuliginous nervure, tinged on its side with ferruginous; anal membrane blackish, whitish at base; abdomen greenish-black, immaculate, very slender behind the base, thickest at base, and fusiform beyond the middle; anal appendices arcuated, superior pair with a tooth on the superior middle, at tip abruptly incurved and truncate; feet immaculate.

Length over two inches.

[Belongs to *Cordulia*.—UHLER.]

5. L. LYDIA.—Wings with a broad, brown band; and at base an abbreviated line.

L. *Lydia* Drury, Ins. Vol. 1, pl. 47, fig. 4, Oliv. Ency. Meth. p. 570.

1839.]

This species agrees with the short description in Turton's Linn., of the *trimaculata* Degeer, and I should certainly consider it the same species, if Olivier had not decided the *trimaculata* to be the same as the *bifasciata* L.

[This is *L. trimaculata* Degeer, pl. 26, fig. 3.—UHLER.]

6. *L. BIFASCIATA* Fabr.—Wings with brown semifascia, tip and basal line.

L. puchella Drury, Vol. 1, pl. 48, fig. 5.

L. bifasciata Fabr. ♀ Oliv. Enc. Meth. p. 561.

L. versicolor Fabr. ♂

L. trimaculata Deg. Ins. Vol. 3, pl. 26, fig. 2.

♀ Destitute of the white wing-spots; abdomen brownish-livid, with a lateral vitta, which is gray, and becomes gradually yellow to the tip; beneath [21] with a yellow lateral vitta, being a continuation of the posterior line of the pleura, and becoming obsolete behind.

It is on the authority of Olivier, that I quote Degeer's *trimaculata* for this species, as I do not possess the work of the latter author.

[This is *S. pulchella* Drury.—UHLER.]

7. *L. TERNARIA*.—Wings with a fuscous line or spot at base; a spot or band in the middle and another near the tip.

Inhabits Massachusetts.

♂ Head, a black line between the antennæ; eyes above in contact by a curved line; posterior lateral canthus of the eyes with two yellow spots; pleura with two oblique lines; wings with a pale ferruginous vitta, extending from the base along the anterior submargin to the middle, thence along the margin to the tip, interrupted by the stigma, which is black; on the middle of the costal margin a fuscous spot, and from the stigma a fuscous band, which does not reach the tip; at base of the posterior wings, behind the vitta, is a rather large and conspicuous, irregular, fuscous spot, reticulated with whitish nervures; anal membrane white; margined cellules ten or eleven between the middle and stigma; abdomen greenish-yellow at base, and black at tip, with a yellow lateral vitta; anal processes fusiform, black, subacute; inferior process hardly one-third as long as the others.

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♀ The spot of the middle of the wing is extended into a semifascia, and the subterminal band is more distinct; at the base of the posterior wings is a black, securiform line, one-fourth the length of the [22] wing, behind which is a large, pale ferruginous spot, reticulated with whitish nervures.

Length one inch and seven-tenths.

At first sight resembles *L. bifasciata* Fabr., but is quite different; the ultimate wing band is not terminal, the anal processes also are dissimilar.

I have not seen any other specimens than the sexes sent me by Dr. Harris for examination.

In some of its characters it resembles the *L. quadrimaculata* Linn., of Europe, but that has not the terminal wing bands.

[Subsequently described as *L. semifasciata* Burm. Handb. 2, 862: and *L. maculata* Rambur, Neuropt. 55.—UHLER.]

8. *L. LEDA*.—Wings at tip, point on the costal margin, and line at base, brown.

Inhabits the United States.

L. Lydia, Drury, Ins. Vol. 2, pl. 47, fig. 1, and Oliv. Ency. Meth. p. 570, No. 8.

Thorax brown, with a pale vitta; pleura greenish; wings with a blackish point on the middle of the costal margin, and oblong blackish carpus; terminal half of the anterior margins and tip fuscous; a slender black line, at base, equal in length to the breadth of the body; abdomen with a broad, yellowish-rufous lateral vitta; anal segment remarkably short; on each posterior orbit of the eyes are two yellow spots.

Length about two inches.

Var. a. Fuscous tint on the anterior margin of the wings obsolete, being only a very slight tinge of ferruginous.

Drury's figure represents this species very well, but the fuscous tips of the wings are generally broader, though sometimes altogether wanting.

[23]

Olivier has two different species of the name of *Lydia*, both of which he quotes from Drury. We have therefore changed the name of the present species.

[The name *L. Lydia* Drury, 2, pl. 47, fig. 1, must be restored to this species, as the other *L. Lydia* of the same author had been 1839.]

before described by Degeer under another name. It is also *L. axilena* Westw. Nat. Libr. 1, pl. 29, fig. 1.—UHLER.]

9. *L. QUADRUPLA*.—Thorax with a whitish vitta; abdomen with a lateral, yellowish one; wings with a bicolored stigma, and basal blackish line.

Inhabits Massachusetts.

This insect very closely resembles *L. Leda* S. It differs, however, in being smaller, and in having the stigma larger, white, with a black tip. The male is destitute of the black wing tips, and like the female, has the exterior half of the costal margin tinged slightly with ferruginous. The anal processes are short, subcylindric, a little smaller at base, and beneath, towards the tip, minutely denticulated; at tip a small point.

The sexes were sent me by Dr. Harris.

Length from one inch and three-fifths to one inch and seven-tenths.

10. *L. BASALIS*.—Wings fuscous on the basal half.

Inhabits the United States.

♂ Body brownish-black; head immaculate, dark bluish; wings dark fuliginous opaque, on the basal half, beyond which is a broad, milk-white almost opaque band; stigma blackish; abdomen somewhat depressed, of equal diameter nearly to the tip, dusky, with a lateral dull yellowish vitta; beneath black-brown.

Length nearly two inches.

[In a note attached to this description by Mr. Say, [24] is a reference to *L. marginata* Degeer. Wings fuscous from the base nearly to the middle.

L. dimidiata Fabr. V. Enc. Meth., refers to Seba, which is quite different. Said to be from Surinam, and is much smaller, to which species the above described insect seems to bear some resemblance in the arrangement of its colors.—ED.]

[Synonym is *L. luctuosa* Burm. Handb. 2, 861.—UHLER.]

11. *L. EPONINA*.—Upper wings bifasciate and with a spot near the base; lower wings with a band and interrupted one, and subbasal line and spot.

Inhabits Pennsylvania and Indiana.

L. eponina Drury, Vol. 2, pl. 47, fig. 2. Oliv. Enc. Meth. 572, No. 10.

Wings pale ferruginous; upper pair with a subbasal spot, band in the middle, and another band before the stigma, fuscous; inferior wings with a corresponding band towards the tip, interrupted band in the middle, undulated, longitudinal line at the base, and spot near the anal angle fuscous; anal membrane white; stigma yellowish.

Length nearly one inch and a half.

A beautiful and strongly marked species.

12. *L. ACUTA*.—Wings immaculate; body greenish-yellow; abdomen with the edges blackish.

Inhabits Mexico.

♀ Body greenish-yellow; eyes approaching above, but hardly touching, the nearest parts not rounded, almost acute; orbits before and above with a black edge; stethidium immaculate; abdomen pale yellowish-brown, yellowish green at base; the acute longitudinal edges, above and each side, black; the [25] transverse edges and a subbasal transverse line on each segments fuscous; venter also with a black line; feet black; thighs yellowish, with the spines black, and on the anterior pairs a line beneath.

Length one-inch and three-fifths.

The quadrilineate abdomen, with the subacute proximate portion of the eyes distinguish this species; the abdominal lines are not dilated, but limited to the edge of the carinæ. The frontal vesicle is greenish-yellow, with a dark transverse line at the antennæ.

[This is *L. vesiculosa* Fabr., Ent. Syst. 2, 377, (var. parv.)—UHLER.]

13. *L. BERENICE*.—Frontal vesicle blue above; wings ferruginous at base.

Inhabits the United States.

L. Berenice Drury, Ins., Vol. 1, pl. 48, fig. 3.

Front whitish, steel-blue above; eyes obtuse above and connate; trunk brownish, with two greenish-yellow vittæ before, and with three oblique broad and obvious yellow lines each side under the wings; between the wings varied with blackish; 1839.]

wings immaculate, or with a tinge of ferruginous at their origin, particularly of the posterior pair, and on the middle; anal membrane blackish; stigma rather large and blackish; feet black; coxæ and trochanters yellow; inferior side of the anterior thighs yellow; abdomen with a dorsal black vitta, including the carina, and a lateral black vitta above the lateral carina; lateral carina black; these vittæ are more and more widely confluent at the sutures, towards the tip of the abdomen, which is entirely black. [26]

Length from one inch and a half to one inch and three-quarters.

It may be distinguished by the blue top of the frontal vesicle, and the ferruginous mark at base of the wings. The ferruginous cloud on the middle of the wings is often altogether wanting. It also varies in having no abdominal vittæ, excepting a vestige at base. The blue color sometimes extends down the front. The abdomen is also sometimes blue, and the thorax sometimes black. Drury describes the abdomen of the female as yellow, with black annulations, and that of the male blue.

The inferior anal process is at least two-thirds the length of the superior ones, which are arcuated, with a tooth beneath near the tip, and at tip acute.

A specimen from Dr. Harris.

14. *L. RUBICUNDULA*.—Abdomen sanguineous, with a lateral black vitta; wings pale ferruginous at base; anal appendices in the male with a tooth on the inferior middle.

Inhabits Indiana and Massachusetts.

Male.—Eyes brown, in contact above; front greenish-white; mouth pale yellowish; thorax obscure brown, immaculate; between the wings a little tinged with dull sanguineous; wings with a very small ferruginous spot at base, not over one-tenth of an inch in length, more evident on the inferior wings; stigma brown; about nine marginal cellules between the stigma and middle of the wings; tergum bright sanguineous, above carinate, immaculate, on each side a black line, which dilates [27] towards the tip of each segment; anal appendices deflected, longer than the inferior conic one, mucronate, and with a strong tooth on the inferior middle; feet blackish, venter pale.

Length one inch and a half.

Variety.—The ferruginous tinge of the base of the wings, extending to the middle; that of the superior pair chiefly on the anterior half of the wing; that of inferior pair more obvious, much broader, extending nearly to the thinner margin.

Length one inch and two-fifths.

I have found many individuals of this species.

V. *L. ferruginea* Enc. Meth. 565.

15. *L. SEMICINCTA*.—Wings tinted on the basal half with pale ferruginous; anal processes with an angle beneath near the tip.

Inhabits Indiana and Massachusetts.

♂ Antennæ black, with a blackish line between them: thorax brownish; pleura yellowish; wings hyaline; stigma rather small, its marginal nervures thick and black; basal half more or less tinted with pale ferruginous, particularly on the inferior wings; about seven marginal cellules between the middle and the stigma; anal membrane white; abdomen with a dorsal and lateral edge; paler at base, and with a lateral black line; anal processes deflected, rectilinear, cylindrical, with three or four minute denticulations beneath, an angle beneath near the tip, and the tip acute; inferior process extending nearly to the tip of the superior pair.

Length about one inch.

[28]

Very much like a small specimen of *rubicundula* S., but differs in several characters, particularly in the anal processes, and in the number of marginal cellules.

16. *L. SIMPLICICOLLIS*.—Wings immaculate; stethidium yellowish; abdomen pale brown, a little varied with black.

Inhabits Indiana and Massachusetts.

♂ Frontal vesicle pale greenish-yellow; a black band across the antennæ; occiput and posterior orbits black, with yellow spots; eyes acute above, almost meeting; stethidium green-yellow, alternating with black at the superior base of the wings; wings immaculate; stigma fuscous; anal membrane narrow, black; feet black; thighs on their posterior side brownish; abdomen brownish, with slender incisural black lines and black edges to the carinæ; a black spot on each, excepting the three basal ones; beneath black; anal appendices very short, green, mucronate.

Length one inch and a half.

Of the male I have but one specimen, which is of a greenish-yellow color, with the sutures and abdominal spots contrasting strikingly with it.

Dr. Harris sent me a specimen for examination.

[Synonyms, *L. maculiventris* Ramb. Neuropt. 87. ♀ *L. cærulans* Ramb. ibid. 64.—UHLER.]

17. *L. OBSOLETA*.—Wings with a submarginal series of six or eight brown spots.

Inhabits Indiana and Massachusetts.

Body dusky; wings hyaline; anterior marginal and submarginal longitudinal nervures dull yellowish: anterior wings with a submarginal series of [29] small brownish spots from the base to the middle, the latter spot largest, transverse, and reaching the anterior edge; posterior wings with six corresponding submarginal spots; a fuscous spot at the anal base of each wing; anal membrane black, with its basal half white; stigma dull yellowish; abdomen with the incisures black, a dorsal and lateral carinated line; feet with black spines.

Length about one inch and three-fifths.

The pleura and base of the abdomen are somewhat marked with brighter yellow. The brown spots of the anal base and the submarginal spots of the wings, are sometimes obsolete, or altogether wanting anal appendices ♂ arcuated, unarmed; inferior process a little curved upward, over three-fourths the length of the superior pair.

A female specimen sent me for examination by Dr. Harris has the spots of the anal base of the wings more obvious.

[Synonym *L. polysticta* Burm. Handb. 2, 856; belongs to *Cordulia* Leach.—UHLER.]

18. *L. EXUSTA*.—Wings with a fuscous spot at base; anal processes subequal.

Inhabits Massachusetts.

♂ Body yellowish-brown, covered with a cinereous pubescence; a black line between the antennæ; eyes in contact by a small portion of their superior curvature; thorax above pale brownish with a yellowish-green vitta from the anterior wings forward; wings hyaline, very slightly tinted with yellowish; costal cellules, between the middle of the wing and the stigma, about twelve or

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thirteen; stigma yellowish; a fuscous longitudinal spot on the middle [30] of the base of the superior wings as long as the width of the thorax; a large, triangular, fuscous spot at the base of the inferior wings, a little longer than that of the upper wing; anal membrane white; abdomen with a dorsal and lateral edge; anal processes somewhat linear, a little arcuated, not narrowed at base, minutely denticulated towards the tip, which is acute; inferior processes nearly as long as the others.

Length one inch and two-fifths.

I have not seen the female. From Dr. Harris.

19. *L. CYNOSURA*.—Posterior wings with a small fuscous spot at base; anal processes excurved.

Inhabits Massachusetts.

♂ Body brownish; head with a black line between the antennæ; tubercle above the antennæ large; eyes in contact above by a curved line; pleura pale greenish, a yellow band beneath the anterior wings; wings hyaline; anteriors immaculate; about six costal cellules between the middle and the stigma, which is dull yellowish; posterior pair with the basal, costal, and subcostal cellules fuscous, and an irregular fuscous spot between them and the anal angle; anal membrane white; abdomen with a dorsal and lateral edge; on each side, near the base, a yellow spot, beyond which is a honey-yellow vitta: anal processes longer than the caudal and ultimate segment of the abdomen together a little dilated and curved outwards towards the tip, which is rounded, abruptly narrowed beneath towards the base; inferior process two-thirds the length of the superior ones. [31]

Length one inch and a half.

Resembles *exusta*, but differs in the number of costal cellules and in the form and length of the anal processes.

It was sent to me by Dr. Harris.

[Belongs to *Epitheca*, and is perhaps *E. semiaquea*? Burm.—UHLER.]

20. *L. TENERA*.—Wings with an abbreviated band and sub-basal spot.

Inhabits Indiana, Pennsylvania, and Massachusetts.

♀ Body fuscous; frontal vesicle yellowish, brownish above; eyes contiguous above; thorax with two broad glaucous vittæ 1839.]

before; pleura with two oblique glaucous wide lines; wings hyaline, a fuscous, undulated band on the middle, not reaching the thinner margin; a fuscous spot midway between the band and base, somewhat larger on the posterior wings; costal margin slightly tinted with ferruginous; stigma brown; anal membrane small, white; abdomen rather wide, second and third segments with a transverse, elevated line on their middle; feet yellowish.

Length nine-tenths of an inch.

It has some resemblance to *L. varia* Linn., but is a very different species. It is not uncommon, but is more limited than some other species to the immediate vicinity of ponds and sluggish waters.

21. *L. TENUICINCTA*.—Small; wings ferruginous.

Inhabits the United States.

Body fuscous, small; eyes meeting above; front yellow; above fuscous; thorax immaculate, somewhat hairy; pleura with about two yellow spots; [32] wings entirely ferruginous; stigma darker, reddish; anal membrane small, blackish; feet dull yellowish; tergum with a very slender, bright yellow, transverse line at each incisure; anal appendices arcuated mucronate; inferior process nearly as long.

Length over four-fifths of an inch.

This small species is common in many parts of the Union, flying rather slowly over the surface of ponds, and, like other species, settling upon sticks and other objects that project above the surface.

V. *L. obscura*. Enc. Meth., 562.

Is it the male of *tenera*?

[This is the male of *L. tenera* Say, and is properly *L. domitia* Drury, 2, pl. 45, fig. 4, of which *L. chlorea* Rambur is a male variety.—UHLER.]

The following note, taken at the island of Senpuxten, on the eastern shore of Maryland, I find amongst my papers.

L. IMBUTA.—♂ Abdomen red; segments black at tip; thorax green; frontal vesicle bluish; eyes darker.

♀ Abdomen greenish; segments black at tips.

I have not observed this species in Indiana.

CALEPTERYX Leach.

1. *C. MATERNA*.—Wings steel-blue, with a tinge of brown; a white, opaque, costal spot near the tip.

Libellula virgo. γ. Drury, Ins. Vol. 1, pl. 48, fig. 2.

[This is the female of *C. æquabilis*, both are preoccupied by Westwood, Drury, Ill. 1, pl. 48, fig. 2, who gives the name *C. virginica*.—UHLER.]

2. *C. OPACA*.—Bluish green, wings darker, immaculate.

Inhabits Massachusetts.

♂ Body bluish-green, or blue, varied with green; [33] beneath blackish; antennæ, second and third joints equally long; wings subopaque, blackish-blue, with a tinge of brown, destitute of any costal spot; abdomen blue, segments at their tips greenish; feet black.

Length about one inch and seven-tenths.

Var.? Wings nearly hyaline, only tinged with the color.

For this species I am indebted to Dr. Harris.

[Was previously described by Beauvois as *C. maculata*, pl. 7, fig. 3.—UHLER.]

3. *C. ÆQUABILIS*.—Blue and green; wings hyaline, a large blackish spot at tip.

Inhabits Massachusetts.

♂ Head and thorax green, tinged with blue; labrum blackish violaceous; antennæ, second joint rather longer than the third; wings hyaline, without any costal spot, a large fuliginous blackish spot at tip, occupying the fourth of the length on the anterior pair, and the third of the posterior pair; abdomen blue; beneath blackish, towards the tip greenish; anal processes covered inwards, and towards the tip a little downwards, of equal diameter, excepting that on the inner side they are a little dilated beyond the middle, upper side a little spinous; at tip obtuse; inferior processes two, rectilinear, cylindrical, a little shorter than the superior pair, dilated on their inner base; pectus and feet black.

Length less than two inches.

A female specimen, also sent me by Dr. Harris, may, perhaps, be of the same species, inasmuch as the wing-spots correspond, except in being paler; but the wings have an opaque white spot near the costal tip.

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LESTES Leach.

1. *L. RECTANGULARIS*.—Wings divaricated; forceps acutely bidentate beneath.

Inhabits Indiana and Massachusetts.

♂ Body dull greenish, more or less tinged with cupreous; head above black, with a very slight coppery tinge: each side of the mouth yellow; labrum bluish yellow; mandibles piceous at tip; eyes (when recent) ultramarine; thorax with the dorsal suture and lateral vitta, varying from pale yellowish to verditer green; wings hyaline, cellules chiefly pentagonal; stigma blackish, its length nearly three times greater than its breadth; abdomen nearly as long again as the wings; tergum with the basal segments a little paler, darker at their tips, and with a hardly obvious whitish, interrupted band at their bases; ultimate segments much darker; anal segment with a longitudinal carina beyond the middle; forceps shorter than the two ultimate segments taken together, with two oblique, very acute teeth beneath; beyond the middle curved downward and inward, so as to become nearly perpendicular to the basal half; inferior processes almost reaching the incurved tip of the forceps; beneath pale, whitish, more or less tinged with yellowish-green.

Length over two inches.

♀ Abdomen much shorter than in the male; tergum with a more obvious cupreous color; feet (as in the male) pale yellowish, with two black lines on the thighs and one on the tibiae. [35]

Length one inch and seven-tenths.

This species made its appearance here about the middle of August. It may at once be distinguished, when at rest, from the *apicalis*, by its divaricating wings. It resembles a South American species, which, not finding described, I have called *undulata*,* but the abdomen of that insect is much shorter.

* *L. UNULATA*.—Wings divaricated; forceps undulated at tip. Inhabits South America.

♂ Body pale; head with a broad green band between the eyes; thorax with a double green vitta; wings hyaline; cellules chiefly pentagonal; stigma light brown; abdomen not one-third longer than the wings, coppery green above, whitish at tip; forceps as long as the two preceding segments taken together, undulated at tip; on the basal half not dilated, and having beneath two remote teeth, of which the basal one is very obtuse in form of a lobe.

Length one inch and three-fifths.

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2. *L. BASALIS*.—Wings sanguineous at base.

Inhabits Missouri, Indiana and Massachusetts.

♂ Head cupreous; thorax cupreous, with black sutures; pleura with yellowish, oblique lines; wings with quadrangular cellules and an oblong dusky carpus; basal fourth, bright sanguineous; pectus yellowish; feet black; tibiæ exteriorly dull yellow; abdomen steel-blue, with slender white incisures; beneath yellowish, with a black middle line; forceps arcuated, spinous above, with a large double tooth beneath; tip obtuse.

Length one inch and three-fourths.

♀ Body green; head with a yellow, abbreviated line on the anterior orbits, yellow nasal margin and labrum; thorax with a lateral yellow vitta; wings tinted with yellow-brown towards the base; [36] carpus white; abdomen with a slender, longitudinal line, and slender basal annulation on each segment; beneath whitish, with a black line; feet black; thighs yellowish beneath; tibiæ yellowish above.

Length over one inch and three-fourths.

Of this fine species, Mr. Nuttall presented me two individuals which he obtained from Missouri. The bright sanguineous color of the wings in one sex terminates abruptly, and in the other the very pale yellowish-brown color of the same part gradually disappears towards the middle.

In the *A. caia* Drury of South America, (*A. Brightwelli* Kirby?) the inferior pair of wings have a reddish spot at tip.

It is very abundant in some situations in Indiana, and is easily taken.

[This is *Heterina americana* Fabr. Ent. Syst. Suppl. 237.—UHLER.]

3. *L. EURINUS*.—Wings immaculate; forceps curved inward, bidentate.

Inhabits Massachusetts.

♂ Body blue, somewhat varied with greenish and violaceous; pectus beneath yellowish; antennæ, second joint shorter than the third; labrum and each side of the mouth yellowish; thorax with a yellow vitta, behind bifid and divaricated; between the wings yellowish; pleura chiefly yellow; wings with a slight tinge of greenish-yellow; stigma blackish; abdomen blue, segments 1839.]

greenish at tip; beneath, a black vitta, and segments blackish behind; forceps curved inward, bidentate beneath; inferior processes conic, less than half as long as the forceps; feet black; thighs whitish beneath; tibiæ with a white line on the exterior side.

Length one inch and nine-tenths.

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The body is much shorter, and the wings longer than the *rectangular* S., which it resembles; the inferior anal processes also are shorter, and the superior pair not decurved so much. From Dr. Harris.

AGRION.

1. A. VERTICALIS.—Head green, blackish above; occiput with a bluish spot on each side.

Inhabits Indiana.

♂ Body above dark bluish, somewhat glaucous, with an obsolete brassy reflection; head light green; above and behind black, with an obsolete brassy reflection; frontal projection black above, sometimes connected by this color with the color of the vertex; eyes bright yellow green, fuscous on the superior surface; occiput with a dilated pearlaceous blue or glaucous spot each side; hairs numerous and rather long; thorax with numerous, rather long hairs; a brassy vitta and lateral black lines; wings hyaline; cellules chiefly quadrangular; stigma short, rhomboidal, brownish; tergum slightly pruinose, tips of the segments a little darker, and extreme base of the segments with an obsolete yellowish band; terminal segments a little darker and slightly iridescent; venter pale green or gray, with a black line; pectus and pleura greenish; feet greenish; thighs black above; tibiæ with a black line on the exterior side.

Length one inch.

♀ Body of a darker color than that of the male; the eyes are black above; the occipital spots are [38] small and orbicular; the tergum is brassy-green, with a very narrow, white, interrupted band at base of each segment; two ultimate segments bright pearly blue; anal segment on the superior tip with an emarginate, slight elevation.

Length one inch.

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This species is not abundant. I obtained several specimens in August.

2. *A. HASTATA*.—Stigma almost detached from the margin, sanguineous.

Inhabits Indiana.

♂ Head greenish; above dark metallic-greenish; eyes green, above blackish; frontal projection blackish above: occiput with an orbicular glaucous dot each side; mouth yellowish; thorax brassy-greenish, sometimes tinged with blue; a slender pale line each side of the back; wings with chiefly rhomboidal cellules; stigma of the superior obovate acute, connected with the edge of the wing only by a short petiole, sanguineous; stigma of the inferior wings rhomboidal, blackish: abdomen bright yellow; tergum with green hastate spots and lines; two or three ultimate segments immaculate; anal segment with an elevated, prominent spine-like process, bifid at tip; two very small, incurved, lateral hooks; venter with a slender, blackish line; pleura, pectus and feet pale green; thighs with a black line towards their tip, obsolete on the posterior pair.

Length over nine-tenths of an inch.

The edge of the superior wing, opposite to the stigma is a little convex and white. [39]

♀ Head yellowish; above dark metallic-greenish; eyes above light brown, and beneath this color is an obsolete parallel line; occiput with the two spots connected by a paler line; thorax on each side with an obscure tinge of fulvous; stigma of the superior wings not separate from the edge, rhomboidal, yellowish-white; tergum green, tinged with dull fulvous each side before the middle; tail with two small angulated processes beneath, which do not extend beyond the extremity of the abdomen.

Var. *a*. Occiput fulvous; the fulvous color of the sides of the thorax and of the abdomen is more vivid and on the latter prevailing so that the green of the tergum is obsolete before the middle.

It is common in August, in meadows.

[This is *A. venerinotatum*, Hald. Pr. Acad. 2, 55; also the same as *A. anomalum* Ramb. 281.—UHLER.]

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3. A. ANTENNATA.—A glaucous occipital band; two basal joints of the antennæ subequal.

Inhabits Indiana.

♂ Body obscure bluish-green, somewhat metallic; head green before; mouth yellow; vertex and occiput black, the latter with a glaucous band, clavate each side; eyes dark greenish, above blackish; antennæ with the two basal joints much thicker than the others, equal in length, the first cylindric, the second attenuated at base; thorax with a glaucous vitta each side of the back; wings hyaline; cellules chiefly quadrangular; stigma rhomboidal, not longer than broad; tergum with a glaucous band at base of each segment; the green color at tip extends upon the sides; venter glaucous, with a black line; pleura glaucous; pectus paler; feet whitish, with a [40] broad black line on the thighs, and another on the tibiæ, excepting the posterior ones.

Length one inch and two-fifths.

This species is smaller than *apicalis*, and larger than either *verticalis* or *hastata* nob., and is distinguished from them by the elongation of the basal cylindric joint of the antennæ being equal in length to the second joint.

4. A. APICALIS.—Two or three ultimate abdominal segments pearlaceous blue above.

Inhabits the United States.

Head pale brown; a black band on the vertex between the eyes, and sometimes two black circles; thorax pale brown, or bluish pearly, with black sutures; wings hyaline, with chiefly quadrangular cellules; carpus short, rhomboidal, brown, or dull whitish; nervures black; abdomen black-green; segments excepting the terminal three, with a dull whitish, basal annulus, from which proceeds a slender line, and on the side, a broader one of the same color, neither of which reach the tip of the segment; three ultimate segments dull yellowish, or cerulean pearlaceous above and on each side; pleura and pectus pale yellowish; feet pale yellow; thighs lineated with brown; tarsi with black incisures and extremity.

Length one inch and a half.

A very common species, remarkable, when recent, by the color

of the tip of the abdomen and of the thorax, which arrests the attention when the insect is on the wing. [41]

But it varies much in color. The vittæ of the abdomen are more or less dilated, sometimes hardly visible; the head and thorax are, in some individuals pearlaceous-blue, and the ultimate abdominal segment varies from dull yellowish, with blackish lines, to a bright pearl-blue, sometimes dull-yellowish with a pearlaceous-blue lateral spot on each.

It is very common.

The female has two small angulated processes beneath the tail, which do not extend beyond the tip of the abdomen, the nails at their extremities are curved downwards; the hooks at the tip of abdomen of the male are not obvious.

The description is from recent specimens. The fine blue color disappears in the cabinet specimens.

BÆTIS Leach.

1. B. INTERPUNCTATA.—Whitish; head greenish; segments of the tergum black on the posterior edges.

Inhabits Indiana.

Body yellowish-white, tinged with green; head rather prominent, yellow-green; vertex with a lateral black point; eyes with a longitudinal black line; stemmata distant, each with a black orbit; anterior one less than half the size of the others; seta of the antennæ black; front with a black angular line under the antennæ; neck distinct, separating the head from the trunk, with a black line each side; thorax somewhat brownish; wings on the anterior margin greenish, with black cross nervures, and a distinct, black, abbreviated, longitudinal [42] line on the middle, between the third and fourth nervures; feet greenish; anterior and intermediate pairs of thighs biannulate with blackish, posterior pair tipped with dusky; tergum with the posterior edge of the incisures black; setæ immaculate.

Length nearly three-tenths of an inch.

The small black spot on the middle of the costal margin is very obvious. The abdomen at tip is more or less obviously ferruginous.

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2. *B. ARIDA*.—Brownish; posterior pairs of feet and setæ white.

Inhabits Indiana.

Body reddish-brown, with dusky incisures; head rather prominent, whitish, varied with ferruginous; vertex with a small black spot each side on the orbit; eyes rufous, with a whitish vitta; stemmata prominent, approximate; anterior one nearly as large as the others; wings immaculate, inferior pair more than one-third the length of the other; anterior tibiæ whitish, obscure at base and tip; posterior pairs of feet and setæ greenish-white; tergum with the posterior margins of the segments.

Length two-fifths of an inch.

It occurs about the middle of June.

3. *B. VERTICIS*.—Yellowish-white; head and double thoracic vitta ferruginous.

Inhabits Indiana.

Body yellowish-white; head sessile; vertex ferruginous; thorax with two ferruginous vittæ, confluent before, and becoming obsolete behind; wings with the nervures, except those of the margin, [43] black; inferior wings not extending beyond the fourth abdominal segments; setæ hardly longer than the body, the incisures black; feet white; anterior thighs ferruginous at tip; anterior tibiæ at tip, and their tarsal incisures, fuscous.

Length over one-fourth of an inch, of the setæ over three-tenths.

Caught in the window in August.

4. *B. OBESA*.—Body short; wings blackish, with a hyaline spot, and numerous smaller ones.

Inhabits Indiana.

Body very short, robust, blackish livid; wings dark brown or blackish, with numerous small, transverse, hyaline, very oblique, semifasciæ about the middle on the anal half; inferior pair excepting on the apical margin with numerous transverse, abbreviated, hyaline lines; abdomen with a dull, rufous, livid margin to the segments; setæ very short, hairy, with black incisures; feet pale yellowish; incisures of the tarsi black

Length over three-tenths of an inch.

This species is not common.

The wings are longer than the body, and the setæ not longer than the abdomen.

EPHEMERA.

E. HILARIS.—Minute, white; stethidium pale fulvous; abdomen with three lateral points.

Inhabits Indiana.

Body white; eyes black, double; stethidium pale [44] fulvous; pleura and pectus with a few abbreviated dusky lines; wings two, ample, costal margin slightly dusky; abdomen depressed, with three brownish punctures on each side towards the tip; seta elongated.

Length one-tenth of an inch.

The smallest species I have seen. I caught several of them about the candle, on the evening of September 4th. They vary in having the brownish lines of the pleura and pectus obsolete, or altogether wanting.

FORMICALEO Geoff.

1. *F. OBSOLETUS*.—Antennæ white in the middle; abdomen with white bands.

Inhabits the United States.

Head dull whitish, with a broad, dark, honey-yellow band between the eyes; antennæ fuscous, middle fourth whitish; thorax dull whitish; wings hyaline: anterior pair with a few obsolete, small, brownish spots or transverse abbreviated lines, two of which on the posterior margin are oblique, and a somewhat larger one on the costal margin near the tip; posterior pair with fewer spots, about three or four subcostal distant ones, and a large one on the terminal fourth, and a less obvious apical one; abdomen blackish, with a whitish band on each segment; beneath with a broad blackish vitta each side over the feet from the head to the abdomen; feet fuscous, posterior pair with a white annulus towards the tip, and at base and their tibia whitish. [45]

Length of body about one inch.

This species is rather common.

2. *F. ? GRATA*.—Wings at tip varied with black and pale caraneous.
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Inhabits Indiana.

Body blackish; head and thorax varied with yellowish; wings, on the apical third, varied with flesh color, and a large trifarious undulated, blackish mark; superior pair with a few blackish spots on the middle nervures, and on those of the anterior submargin; feet fuscous, with a yellowish line.

Length to the tip of the wings, about two inches.

This beautiful species is very rare.

A specimen was presented to me by Mrs. Corson; it was taken at her residence, near Evansville, Indiana.

Thd palpi in the specimen are deficient.

[This is *Myrmecleon roseipennis* Burm. 2, 995.—UHLER.]

CHRYSOPA Leach.

C. OCULATA.—Pea-green; head and thorax spotted; tarsi brownish.

Inhabits the United States.

Antennæ pale brownish; first joint white, with a sanguineous band at base above, second joint black; eyes golden; palpi alternately black and white; labrum with two dilated sanguineous vittæ; between the eye and mouth is a black, angulated line; base of the anteunæ enclosed by two black circles; which are tinged with sanguineous above; above each antenna are two blackish spots, of which the anterior ones are sometimes confluent with the [46] circles of the antennæ; thorax with two series of three blackish spots in each, and two or three lateral spots; wings hyaline, iridescent, having the transverse nervures varied with black; tarsi pale brownish-yellow.

Length to the tip of the wings three-fifths of an inch.

This beautiful little insect is very common. When irritated, it diffuses a strong offensive odor, similar to that of human excrement. It is the analogue of the *C. perla* L., with which I have hitherto confounded it, but, judging by Donovan's figure, it is never so large. Donovan says the *perla* stinks before a storm; our species has always that quality when irritated or alarmed.

[This is *C. euryptera* Burm. 2, 980.—UHLER.]

[From the Transactions of the American Philosophical Society, New Series, vol. 1, 1818, pp. 401-426.]

A Monograph of North American insects, of the genus *CICINDELA*.

Read, 7th November, 1817.

It will perhaps be thought necessary, previous to entering into a technical detail of the characters of the genus *Cicindela*, and of the indigenous individuals which are comprehended by it, that some account of the manners of this sprightly tribe should be given, and of such circumstances, relating to them, as may serve to present them to the recollection of the general observer. I shall accordingly proceed to state, that these insects usually frequent arid, denudated soils; are very agile, run with greater celerity than the majority of the vast order to which they belong; and rise upon the wing, almost with the facility of the common fly. They are always to be seen, during the warm season, in roads or pathways, open to the sun, where the earth is beaten firm and level. At the approach of the traveller, they fly up suddenly to the height of a few feet, pursuing then a horizontal course, and alighting again at a short distance in advance, as suddenly as they arose. The same individual may be roused again and again, but when he perceives himself the object of a particular pursuit, he evades the danger by a distant and circuitous flight, usually directed towards his original station. It is worthy of observation, as a peculiarity common to the species, that when they alight, after having been driven from [402] their previous position, they usually perform an evolution in the air near the earth, so as to bring the head in the direction of the advancing danger, in order to be the more certainly warned of its too near approach.

They lead a predatory life, and as it would appear, are well adapted to it, by their swiftness, and powerful weapons of attack. The beaten path, or open sandy plain, is preferred, that the operations of the insects may not be impeded by the stems and leaves of vegetables, through which, owing to their elongated feet, they pass with evident difficulty and embarrassment. They

prey voraciously upon the smaller and weaker insects, upon larvæ and worms, preferring those whose bodies are furnished with a membranaceous cuticle, more readily permeable to their instrumenta cibaria.

The same rapacity is observable in the larva, or imperfect stage of existence, of these insects, that we have occasion to remark in the parent; but not having been endowed by nature with the same light and active frame of body, they are under the necessity of resorting to stratagem and ambuscade for the acquisition of the prey, which is denied to their sluggish gait. The remark is, I believe, generally correct, though liable to many signal exceptions, that carnivorous animals display more cunning, industry, and intelligence, than those whose food is herbs, for the acquisition of which, fewer of the mental attributes are requisite; we see throughout the animated creation, that the development of these qualities, as well as of the corporeal functions, are in exact correspondence with their necessities; and that where a portion of the one is withheld, an additional proportion of the other is imparted. This larva has a very large head, elongated abdomen, and six short feet placed near the head; when walking, the body rests upon the earth, and is dragged forward slowly by the feet. Notwithstanding these disadvantages they contrive means to administer plentifully to an appetite, sharpened by a rapid increase of size. A cylindrical hole is dug in the ground to a considerable depth, by means of the feet and mandibles, and the earth transported from it, on the concave surface of the head; this cell is enlarged [403] and deepened, as the inhabitant increases in size, so that its diameter is always nearly equal to that of the head. At the surface of the earth they lay in wait for their prey, nicely closing the orifice of the hole by the depressed head, that the plain may appear uninterrupted; when an incautious or unsuspecting insect approaches sufficiently near, it is seized by a sudden effort of the larva, and hurried to the bottom of the dwelling, to be devoured at leisure. These holes we sometimes remark, dug in a footpath; they draw the eye by the motion of the inhabitant retreating from the surface, alarmed at the approach of danger.

I shall now proceed to offer some remarks on the affinities of this genus, and endeavor to point out the differential traits, by

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which it may be distinguished from its congeners. *Cicindela*, according to Linnæus, included not only all the insects, which would at this day be referred to it, but many others, which, however closely allied by habit, are widely distinct in the formation of their oral organs. These were separated by the celebrated systematists, Fabricius and Latreille, into several new genera, to which well defined essential characters have been affixed. These separations have been made upon the best possible grounds; the convenience of the student, and the approximation to natural method. So circumscribed, *Cicindela* presents a natural group, in which each individual so perfectly corresponds with the others, as well in its internal organization and parts of the mouth, as in habit, or general form of the body, that the entomologist finds no difficulty in distinguishing it from insects of neighboring genera, and referring it to its relative situation.

The genera to which allusion is here made, as having affinity with the one under consideration, are principally *Colliuris*, *Therates*, *Megacephala*, *Manticora*, *Elaphrus*, and *Notiophilus*. In constructing the essential character, I have endeavored to ascertain such traits as will at once, invariably, distinguish *Cicindela* from all other known genera of the Pentamerous Coleoptera, and prevent the occurrence of error in the reference of species to it. In external form, *Cicindela* [404] borders very closely upon the genera here enumerated, and in addition to evidence of frequent recurrence, furnishes us with ample proof, that if habit was the only character consulted in the formation of a system, animals of very different modes of life, and totally distinct in nature, would be blended together by artificial violence. Of the genera above mentioned, the two last are very distinct from *Cicindela*, by the inarticulated maxillary nail, and by a deep sinus on the inner edge of the anterior tibia, characters which at once approach them to the *Carabi*, notwithstanding the almost perfect similarity which *Elaphrus* bears to *Cicindela* in miniature, by the form and proportions of its body. The mentum or chin also of the former is not divided as it is in the latter genus, and it is worthy of particular remark, that in *Notiophilus* there exists the spine and recipient cavity of *Elatér*. *Colliuris* is composed of two species, natives of the East Indies, and one of South America, distinguished.

guished by the cylindrically-conic thorax, more elongated body, and narrow, transverse mentum, which is widely emarginated, without a conspicuous inner division, but in other respects much resembling *Cicindela*. A genus has been lately formed by Mr. Latreille, under the name of *Therates*, for an insect of the South Sea Islands, which Fabricius had named *C. labiata*. This has a strikingly discrepant peculiarity in the form of the intermediate palpi, which are abbreviated into a spine-like process. *Manticora* includes two species, indigenous to the Cape of Good Hope, which resemble *Cicindela* by the form of the mentum, in which there is scarcely any difference; the jaws also are similar, and the mandibles not unlike; but a good distinctive character rests in the palpi, of which the posterior are larger than the intermediate ones; the abdomen also is somewhat pedunculated, and embraced each side by the elytra. The last proximate genus which I shall notice, is that of *Megacephala*, of which at least two species, the *Carolina* and *Virginica*, are natives of this country, and are principally found in the Southern States. In this genus, as in those before adverted to, there is no difficulty in pointing out good and substantial characters, by which [405] it may be readily known; the anterior palpi are elongated, and reflected, not equal to the intermediate ones, as in *Cicindela*; the inner division of the mentum is much shorter and the front of the head convex.

Having thus noted the differences existing between this genus and each of its neighboring genera, I shall next proceed to lay down its characters, distinguishing them into Essential, Artificial and Natural, for the first of which the preceding remarks will furnish materials; and finally, I shall endeavor to describe the species with such accuracy and detail, that they may be readily known.

Order V.—*COLEOPTERA*.

Section I. PENTAMERA.—Family I. ENTOMOPHAGA.—Tribe I.
CICINDELETÆ.

CICINDELA.

Cicindela Linn. Fabr. Latr.

Buprestes Geoff.

Essential Character.—Maxillæ monodactyle; mentum trifid, inner division scarcely shorter; intermediate and posterior palpi subequal, filiform; tibiæ simple.

Artificial Character.—Antennæ filiform; clypeus shorter than the labrum; maxillæ with two very distinct palpi, of which the exterior one is nearly equal to the labial palpi, penultimate joint of the latter hairy; [406] mentum trifid, the divisions nearly equal in length; feet slender, elongated. Anterior tibia without a sinus near the tip.

Natural Character.—Body oblong, of a medium size, agile, winged, hairy, above depressed, and punctured.

Head as large as the thorax, exserted, inclined, suboval. Vertex rugose, elevated each side upon the eyes, concave on the disk. Antennæ filiform, eleven-jointed, shorter than the body, first joint dilated, attenuated at base, and inserted in the anterior canthus of the eye, with which and with the clypeus it is nearly in contact; second joint very small, rounded, third cylindrical, longest, and with the next dilated at tip, succeeding ones subequal, or gradually decreasing in length, and furnished with a few rigid hairs at their tips, terminal one obtuse. Clypeus transverse, very short, contracted in the middle. Labrum coriaceous, very large, transverse, often dentated, exserted, prominent. Mandibles advanced, prominent, attenuated and incurved towards the tip, dentate within, a large compound tooth at the base, and about three other distinct ones nearer the tip. Maxillæ corneous, recurved, 1818.]

linear, a little gibbous at the insertion of the palpi, deeply ciliate with rigid bristles within, and armed with a terminal, distinct, moveable, partly incurved nail. Palpi six, filiform; anterior pair biarticulate, first joint elongated, rectilinear, a little dilated at tip, almost attaining the apex of the maxilla, second joint linear, incurved over the point of the maxilla and attaining the termination of the nail. Intermediate palpi with the preceding, situate on the back of the maxillæ, quadriarticulate, first joint [407] abbreviated, attenuated at its insertion, second joint cylindric, elongated beyond the tip of the maxilla and equa to the two succeeding ones conjointly, third shorter than the terminal one, gradually dilated to the apex, fourth somewhat enlarged towards the extremity, truncate. Posterior, or labial palpi pedunculated, approximate at base, nearly equal to the preceding pair, triarticulate, first joint minute, attaining the tip of the inner division of the mentum, second elongated, cylindric, very hairy above, terminal one glabrous, half as long as the preceding, truncate at summit. Labium membranaceous, short, concealed behind the mentum. Mentum, corneous, transverse, somewhat concave, trifid, inner division conic, as long or nearly so as the lateral ones, and a little more advanced, lateral ones dilated, and rounded on the external margin, tip conic, the separating sinuses admitting the free motion of the labial palpi. Eyes large, very prominent, reticulate, obovate, distant from the thorax.

Trunk.—Thorax subquadrate, length and breadth nearly equal, generally with an anterior and posterior impressed, transverse line connected by a dorsal, longitudinal one giving to the disk a bilobate appearance. Scutel triangular, conspicuous, acutely margined. Pectus hairy, punctured or scabrous, brilliant, prominent between the anterior coxæ, (sternum) about half as long as the coxæ, concave at tip. Epigastrium usually hairy, punctured, brilliant. Elytra rigid, as long as the abdomen, depressed, incumbent not deflected, rounded behind, wider than the thorax, humerus prominent, rounded before, suture and margin nearly parallel, disk punctured, granulated, granulæ exceedingly minute. [408] Wings, hyaline, with a few nerves; costal margin strong, stigma dilated, with three hyaline spots. Feet elongated, sub-compressed, slender, formed for running; hind pair longest; anterior

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pair shortest; coxæ of the four anterior ones conic-ovate, of the posterior pair minute and coneealed; trochanters of the two anterior pairs subtriangular, of the posterior ones large, reniform and prominent; thighs nearly equal to the tibiæ, two anterior pairs, a little dilated near the base and attenuated towards the tip, hind pair linear; tibiæ slender, linear, not emarginate within, heel armed with two spines; tarsi five-articulate, filiform, longer than the tibiæ, joints cylindrical, first joint longest, second, third and fourth gradually decreasing in length, the latter not bilobate, terminal joint as long as the third and furnished with two simple, incurved, acute nails; first, second and third joints of the anterior pairs in the male dilated, hairy beneath.

Abdomen.—Subcordate or subtriangular, of six distinct segments, five in the female; tergum concave on the disk, with an elevated margin; venter convex, first segment divided into two remote, almost triangular portions, forming the anterior lateral angles, second segment with two deep, rounded sinuses near the middle for the reception of the third pair of coxæ, separated by a subtriangular, obtuse portion of the segment; third, fourth and fifth subequal, conspicuously falcate behind at the margin, rather diminishing in size, the last more rapidly narrowed in the male, the sixth segment with an obtuse sinus at the middle tip; tail convex above, truncate beneath, with a deeply indented line near the tip in the female.

Larva.—Body soft, cylindrical, elongated, whitish, with a double, erect, dorsal spine on the eighth segment; [409] head coriaceous, colored, depressed and concave above, beneath convex, much broader than the body, rounded, furnished with strong, prominent mandibles, short antennæ and two stemmata on each side; first, second and third segments, each furnished beneath with a pair of scaly feet, the former with a coriaceous disk; tail simple.

Food.—Insects, worms, &c, in the different stages of their existence.

Season.—Spring, summer, autumn.

Color.—Green, purplish or black, often varied with the two former, and exhibiting brilliant metallic tints, the elytra usually with abbreviated bands, lunules, and spots of white or yellow.

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Obs. The sexes may be distinguished from each other by the three first anterior tarsal joints of the male being dilated, and hairy beneath; the last segment of the body, with an obtuse sinus. The tarsi of the female are simple, the tail canaliculate towards the tip.

1. *C. VULGARIS*.—Obscure, on each elytron three whitish bands, two of which are curved, and the intermediate one refracted.

Length more than three-fifths of an inch.

Inhabits North America.

Desc. Head blackish or obscure cupreous, green at base above, front with cinereous hair; antennæ, first, second, third and fourth joints green, furnished with a few white hairs before, origin of the hairs in punctures, which are more obvious on the basal joint, remaining joints black, opaque; labrum white, with three [410] black teeth at tip and four marginal punctures, one of which behind each of the lateral teeth, and one at each anterior angle; mandibles white at the base, black within and at the tip; palpi above green, beneath purple, the second joint of the labials white. Trunk, thorax quadrate, inconspicuously narrowed behind, obscure cupreous, with distant hairs, submarginal impressed lines blue; feet green; thighs usually brassy-red above; elytra cupreous brown or blackish obscure, with minute, irregular, green punctures; suture and external edge cupreous, each elytron with an external lunule or curved line, originating on the humerus, sometimes interrupted on the margin and curved inwards towards the tip of the elytron, intermediate band refracted, at the centre of the elytron, in an obtuse angle, curved downwards, and terminating near the suture, posterior band, somewhat lunate, terminal. Abdomen, tergum greenish blue, segment brownish or pale at tip; venter blue with a purple shade; tail, and sinus of the male purple.

This species I have always been accustomed to refer to *C. trifasciata*, and it is not without considerable hesitation that I venture to give it a distinct name. Mr. Melsheimer considered it as *trifasciata*, and that name in his catalogue refers to the insect under consideration; it is also true, that it corresponds in

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every particular with the short description of that insect in the Syst. Nat. and also in the Syst. Eleut., but this circumstance alone is not sufficient to warrant us in concluding it to be the same. for in this instance, as in very many others wherein brief descriptions are concerned, several distinct species may be referred with equal propriety to the same trivial name. Olivier, in his celebrated work, gives us a few additional characters of the *trifasciata*, the most important of which "on voit une raie interrompue, le long de la suture, jusque vers le milieu," is with respect to our insect a [411] good discriminative character, in which this line or vitta never has existence; the size also as depicted by him, tab. 2, fig. 18, is not quite half an inch, whereas that of the *vulgaris* is full three-fifths. From these characters it must be evident that Olivier's *trifasciata* is a different insect from the one here described, and as he examined the various cabinets in which the insects described by Fabricius are preserved, I rely upon his knowledge of the Fabrician species, particularly as he gives the synonym of that author. Against the correctness of this decision it might be urged, that Fabricius, in his subsequent work, Syst. Eleut., does not refer to the above mentioned figure, neither does he quote Olivier at all under his description of *trifasciata*; but this objection, however plausible, will have no weight, when we know that he refers to this very figure, the 18th, of tab. 2, for the *C. punctulata*, an insect with which it has no other than a generic affinity, and for which, on comparison, it could not be mistaken.

[Afterwards described as *C. obliquata* Dej.—LEC.]

2. *C. HIRTICOLLIS*.—Obscure cupreous, beneath bluish-green, trunk each side cupreous brilliant, hairy; elytra with two lunules, intermediate refracted band and outer margin white.

C. hirticollis, Journal of the Academy of Natural Sciences, vol. 1, No. 2, p. 20.

Length rather more than half an inch.

Inhabits Pennsylvania.

Desc. Head cupreous, varied with green or blue, front with cinereous hair; terminal joints of the antennæ black, opaque; labrum white, sinuate on the anterior edge, and furnished with a
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single tooth and eight submarginal punctures producing hairs; mandibles white at the base, within dark green, tip black: palpi white, terminal joints green. Trunk, thorax with the submarginal lines blue, quadrate, not straitened behind; elytra obscure, punctured irregularly with green, punctures larger than in [412] the preceding species, more conspicuously serrate at the hind margin and mucronate at the inner tip: anterior lunule originating on the humerus, continued a short distance on the margin, and curved rather towards the base of the elytron, intermediate band divaricated on the margin, so as to attain the lunules, but is sometimes interrupted before the posterior, refracted in a somewhat acute angle at the centre of the elytron, thence recurved nearly parallel with the suture, and dilated at its termination; posterior lunule terminal; feet red-cupreous, hairy; trochanters purple. Abdomen, venter blue, segments tipped with brassy; tail purple.

This insect does not appear to have been described except in the work to which the synonym refers; it had been previously overlooked, probably in consequence of its proximity in point of colors and marking to the preceding species, which it generally accompanies; but a small degree of scrutiny will detect a sufficient number of discriminative characters to warrant us in constituting of this insect a distinct species; in size its female is equal to the male of *C. vulgaris*, the punctures of the elytra are much larger, the intermediate band is so widely spread out upon the margin, as nearly to connect the anterior and posterior lunules, and the tip of the anterior lunule is curved towards the base of the elytra, and not obliquely towards the tip, as in the preceding species; a striking difference also is perceptible in the upper lip which in that insect is three-toothed, but in the *C. hirticollis* it is one-toothed. Neither this nor the preceding species have been observed to vary in their colors or markings.

[Ante, 2; this description and figure evidently refer to the species afterwards described as *C. albohirta* Dej. The figure is quite characteristic, and can by no means be regarded as *C. baltimorensis* Herbst., (*repanda* Dej.)—LEC.]

3. *C. UNIPUNCTATA*.—Dull cupreous, obscure, naked, base of the mandibles, labrum and marginal dot on each elytron, white.

C. unipunctata, subpurpurascens, labio elytrorumque puncto albis. Fab. Syst. Eleut. pars 1, p. 238. [413]

C. unipunctata, violette, brillante en-dessous, obscure en-dessus; elytres avec un point blanc. Oliv. Inst. 33, tab. 3, fig. 27.

Length nearly seven-tenths of an inch.

Inhabits the southern States.

Dec. Head entirely rugose, neck above granulate; clypeus narrowed in the middle; labrum much broader in the middle, white, edge brown, strongly three-toothed before, of which the intermediate one is larger, margin with four punctures, of which two are at the lateral angles and the others at the base of the lateral teeth; mandibles white at base, tip black; palpi green. Trunk, reddish-purple on the sides; thorax with the lines not deeply impressed or differently colored, a little narrowed behind; elytra with a slight shade of greenish-olive, convex, without a sutural angle or spine behind, irregularly punctured with green; on the posterior half are some larger, scattered, impressed green dots, a few at the base and in an undulated line near the suture; surface somewhat unequal, a conspicuous indentation towards the base of each near the suture and an oblique, abbreviated, obscure one in the centre of the elytron near the marginal spot, which is subtriangular, white and placed on the middle of the margin; a minute, obsolete, white dot is situate at the posterior curve. Abdomen, venter reddish-purple each side near the base; tail black.

Of this insect I have seen but a single specimen, for which I am indebted to Mr. J. Gilliams, who caught it in the state of Maryland. It is very possible that it may be a distinct species from the *C. unipunctata* as the figure of that insect by Olivier above referred to is rather smaller and of a somewhat different habit; nevertheless as his description agrees very well [414] with our insect, I shall consider it as the same until those who have an opportunity of seeing the original may decide.

4. *C. SEXGUTTATA*.—Greenish-blue polished, each elytron with three marginal white dots, the two first, nearly equal, the last transverse and terminal.

C. 6-guttata, viridis, nitida, elytris punctis tribus marginalibus albis. Fab. Syst. Eleut. 1, p. 241.

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C. 6-guttata, d'un vert bleuâtre brillant; élytres avec trois points blanchâtres, sur le bord extérieur. Oliv. Ent. No. 83, pl. 2, fig. 21, a.

C. 6-guttata, elle brille du plus beau verd-bleu. Le pattes sont bleues, les yeux blancs. Herbst. Arch. p. 159, pl. 27, fig. 17.

Length of the male more than half an inch.

Inhabits North America.

Desc. Head green, sometimes glossed with blue; antennæ, four basal joints green, remainder black-brown; labrum white, edged with brown, three triangular teeth before, and six marginal blackish punctures each of which latter furnishes a hair; mandibles white above, tip black; palpi green; eyes brown. Trunk green, tinged beneath with blue, but without a cupreous tint, hairs remote and short; feet green; trochanters brassy; intermediate tibia with more numerous short hairs near the tip behind; elytra green, brilliant, behind the middle bluish-purple, which deepens towards the tip, hind margin rounded, obscurely serrate, sutural margin not abbreviated nor mucronate at tip, each elytron marked by three marginal white dots, the first placed in the middle of the margin, one at the posterior curve, and the third transverse and terminal; inferior page blackish, marginal spots testaceous. Abdomen, venter bluish-green, segments margined, bronzed, edge and tail purple. [415]

Var. *α*. Elytra each with an additional spot, which is fulvous or white, and generally inconspicuous, placed behind the middle triangularly with respect to the two anterior, marginal ones.

Var. *β*. Each elytron with a single marginal spot, the two posterior ones wanting.

This insect is common in Pennsylvania, but not so frequent as either *vulgaris* or *hirticollis*. Its characters are strong and discriminative, so that our synonymes are free from doubt, although that of Herbst represents the eyes as white; but this color is, as in some of the Carabi and many other insects, only to be found in the dried specimen, and is by no means universal. The second variety was brought from the banks of the Missouri, above the confluence of the river Platte, by Mr. Thomas Nuttall.

5. *C. DORSALIS*.—Bronzed, elytra white, each with two curved

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lines on the disk, suture, and curved branch near the base, green; tail testaceous.

C. dorsalis, Journal of the Academy of Natural Sciences, vol. 1, p. 20.

Length nearly three-fifths of an inch.

Inhabits New Jersey.

Desc. Head bronzed, naked, edges green; antennæ brown, basal joints green, the third hairy before; labrum white, not emarginate at the anterior angles, broad before, and furnished with a single tooth, eight punctures very near the edge, of which six are equidistant on each side of the tooth, the others remote; clypeus almost obsolete above; mandibles white above and beneath, tips and teeth within [416] black-green, a very strong tooth beneath, near the tip of one mandible, the other simply a little angulated in that part; palpi white, tip of the terminal joint of each blackish. Trunk eupreous, covered each side by short, dense, prostrate, cinereous hair; thorax bronzed, varied with green, margin and longitudinal dorsal line hairy; scutellum green or bronze; elytra white, with very minute, irregular punctures, and a few larger ones on the anterior margin; suture and a lunated branch near the scutellum, curving on each elytron and abbreviated behind, the middle of the base green, disk with two abbreviated green bracket-formed lines, of which one curves outwards and the other inwards, respectively terminating at one end opposite the centre of the other. Abdomen, venter bronzed, segments margined with purple, having dense, cinereous, prostrate hair each side; tail and tip of the last abdominal segments testaceous.

This very fine and beautiful species I discovered a few years ago on the sea beach of New Jersey. In several of the *Cicindelæ* there is a strong tooth on one of the mandibles near the tip, beneath pointing downwards, which is very conspicuous in the present species; these teeth are I believe never found on both mandibles, otherwise the mouth could not be properly closed, accordingly the tip of the armed jaw is always beneath the other in repose; neither is the weapon confined to the right or left mandible, but is found upon either indifferently, whilst upon the corresponding part of the other, is usually a very small angle. It must be remarked that this insect seems to approach a species 1818.]

described by Fabricius, as a native of the island of St. Thomas, and I here subjoin his definition, "*C. viridi-ænea*, elytris albis: sutura lunulaque viridi-æneis. Syst. Eleut." [417]

[Ante, 1; afterwards described as *C. signata* Dej.—LEC.]

6. *C. MARGINATA*.—Olivaceous, obscure, sometimes with cupreous reflections; cheeks, sides of the trunk and of the abdomen, with short dense hair, each elytron with a whitish margin, two abbreviate branches, an intermediate refracted one, and two dots at base.

C. marginata, viridis, elytris punctis quinque, lunulaque apicis albis. Fabr. Syst. Eleut. 1, p. 241.

Length of the male more than half an inch.

Desc. Head greenish, olivaceous varied with purple, and edged with blue; antennæ purple at base, terminal joints brown; front with prostrate hair; labrum white, with several minute, obtuse teeth, in the male, with a single more prominent one, and about ten marginal punctures, lateral angles rounded; cheeks covered with dense hair; palpi white, terminal joint of each black at the tip. Trunk, on each side cupreous, concealed by short, cinereous hair; thorax bronze or olivaceous, posterior impressed line green or reddish; elytra olivaceous-obscure, or tinged with cupreous, margin pale, uniting the anterior and posterior lunules, the former with an accessory spot at the middle of the base, and a smaller one interrupted from its tip, the latter continued a short distance upon the sutural margin, intermediate band refracted in a very acute angle, at the centre of the elytron elongated, and dilated behind, terminating at the suture, in a transverse line drawn from the tip of the posterior lunule; trochanters testaceous. Abdomen, venter very hairy each side, segments bronzed and margined with purple; tail testaceous, of the female blackish-purple. [418]

The markings of the elytra are in many specimens so far obsolete, as to be only distinguishable in a particular light; and they are always less obvious than those of the *vulgaris*, *hirticollis*, &c., to the latter of which, this insect, in the distribution of its bands and lunules, bears some resemblance.

[Afterwards described as *C. variegata* Dej.—LEC.]

7. *C. OBSCURA*.—Black, each elytron with two white marginal spots and a terminal lunule.

C. obscura, nigra, elytris punctis duobus marginalibus, lunulaque apicis alba. Fabr. Syst. Eleut. 1, p. 238.

Inhabits North America.

Desc. Head black, naked; antennæ brown at tip; clypeus large; labrum white, three-toothed, not emarginate, at the anterior angles, margin with about six punctures, of which one is placed each side of the larger central tooth; mandibles white on the exterior base above; palpi piceous. Trunk, black, immaculate; elytra tinged with brown on the posterior half, punctures minute, not deeply impressed, two white marginal maculæ, of which the anterior one is smaller, rounded, and placed near the humerus, the other large, triangular, situate in the middle of the margin, lunule terminal; tarsi piceous. Abdomen, black, naked, immaculate.

Var. α . Labrum black or piceous, anterior marginal spot of the elytra wanting.

Very distinct from any other species with which I am acquainted, for the variety I am indebted to Mr. J. Gilliams, who caught it in the State of Maryland.

[Not the *C. obscura* Fabr., which is the European *C. germanica*; it is a black race of *C. rugifrons* Dej., and was described as *C. modesta* Dej.—LEC.] [419]

8. *C. PURPUREA*.—Head, impressed lines of the thorax and margin of the elytra green, the latter with a central, reclivate, oblique, abbreviated band, terminal line and intermediate dot white.

C. purpurea, purpurine en-dessus, d'un vert bleuâtre en-dessous; elytres avec une band courte, et deux points blancs. Olivier, Ins. 33, t. 3, fig. 34.

C. marginalis? thorace elytrisque cupreis; marginibus viridibus, elytris lunulis duabus albis, Fabr. Syst. Eleut. 1, p. 240.

Length of the male about three-fifths of an inch.

Inhabits North America.

Desc. Head red-cupreous, hairy with green edges, and two distinct green lines between the eyes, originating at the base of the antennæ, and approximating towards the vertex; antennæ 1818.]

green at base, tip brown: clypeus blue; labrum white, three-toothed, edge black and with about eight marginal punctures; mandibles black within and at tip; palpi green. Trunk, green, each side golden; thorax with a cupreous disk; elytra olivaceous-green to a brilliant cupreous-red, margin bright green, each with an oblique, reclivate band near the middle, originating at the green margin, and terminating at a distance from the suture, a transverse line at tip and an intermediate submarginal dot, white; trochanters purple; tibiae hirsute behind. Abdomen, venter green, sides purple.

Var. α . Elytra destitute of the intermediate dots. *C. ramosa* Melsheimer, Catalogue, p. 46.

Var. β . Head and thorax green; elytra as in the preceding variety.

Var. γ . Head and thorax green; elytra immaculate. [420]

Var. δ . Black, opaque above, beneath polished; labrum, lines and spot of the elytra, as in the species; cheeks and venter a little glossed with purple.

C. tristis? nigra, elytris macula media flava. Fabr. Syst. Eleut. 1, p. 235. (Var.)

This insect is subject to numerous varieties in color and markings, but those above described are the most striking of any that have fallen under my observation; the anterior band is sometimes obsolete towards the tip, so as to leave a very short perfectly transverse line attached to the margin. The variety α , is much more common in Pennsylvania than either of the others. It is probable that the *marginalis* of Fabricius will prove to be the same with this, but Olivier's designation, having the right of priority, will of course be adopted. The variety δ is a memorable departure from the appearance of the species, no trace of the original coloring remains upon it, but that of the bands, &c., of the elytra; is seems a link in the connecting chain which unites the *purpurea* with the species described by Fabricius, under the trivial name *tristis*, and seems to be alienated from it, only by the presence of an intermediate dot and terminal line; the central re-clivate band is precisely the same in form. Nevertheless it is highly probable that the *tristis* is a distinct species, although for the present I have placed it here as a variety, having no opportunity of examining a specimen.

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9. *C. PUNCTULATA*.—Obscure cupreous, beneath varied with blue and purple, each elytron with a few white points and terminal lunule, an undulated line of distant green punctures near the suture.

C. punctulata, bronzée en-dessus, bleu en-dessous; élytres avec quelques points blancs, et une suite de pointes enfoncés brillans. Oliv. Ins. No. 33, tab. 3, fig. 37, a. b. [421]

C. punctulata, capite, thoraceque cupreis, elytris punctatis obscuris: punctis lunulaque apicis albis. Fabr. Syst. Eleut. 1, p. 241.

C. obscura Melsh. Catal.

Length about half an inch.

Inhabits North America.

Desc. Head cupreous obscure, margin, cheeks and two lines between the eyes blue; antennæ brown, base cupreous; front naked; labrum white, sinuated on the edge, with a single prominent tooth and six submarginal punctures; palpi, labials white, last joint green, external maxillary ones piceous, third and fourth joints green. Trunk, deep blue, varied with purple beneath, sides cupreous; thorax color of the head, impressed lines and lateral margin blue; elytra color of the thorax, irregularly punctured with green, on each an undulated line of distant larger green punctures near the suture, and a few at the middle of the base; five small white dots, of which three are on the disk arranged in an oblique line, one near the humerus, the second central, third near the suture, the fourth and fifth dots marginal situate opposite the two preceding ones, terminal lunule straight, not ascending the suture. Abdomen, venter varied with purple and blue; tail bronzed.

Var. a. Elytra destitute of the white dots, the lunule only remaining.

A very common insect, its variations are confined to changes in the number and magnitude of the spots of the elytra; the anterior marginal dot is always minute, and of all the others most frequently wanting, the two anterior spots of the disk also are often invisible. Fabricius by mistake refers to fig. 18, tab. [422] 2, of Olivier's Insects, for this species, which is intended for the *C. trifasciata*, a native of South America, rather smaller than this insect and totally distinct in its characters.
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10. *C. FORMOSA*.—Red-cupreous brilliant; elytra with a three-branched, broad white margin.

C. formosa, American Entomology, pl. 6. Journal of the Acad. of Nat. Sciences, p. 19. [Ante, 1, 35.]

Length seven-tenths, breadth one-fourth of an inch.

Inhabits the sandy alluvions of the Missouri, above the confluence of the river Platte.

Desc. Head red-cupreous, brilliant; front hairy; antennæ fuscous, basal joint green, second bronzed, third and fourth purple; clypeus and cheeks deep purple, the latter hairy; labrum white, with a blackish three-toothed edge, and six marginal punctures; mandibles black, base above white; palpi, basal joints testaceous or pale, terminal one green tipped with bronze. Trunk, deep purple, sides green, hairy; thorax color of the head, scabrous; pectus green before: feet purple; coxæ hairy; trochanters bronzed; elytra color of the head and thorax, with a dilated, white, uninterrupted margin, and bluish edge, anterior and posterior branches, short, intermediate band flexuous and oblique, nearly attaining the suture, and with the other branches dilated, equal to the margin; hind angle not conspicuously mucronate. Abdomen, venter exclusively purple, covered with cinereous hair; tail bronzed.

The most beautiful, and one of the largest of the North American species; in the arrangement of the bands, &c. [423] of the elytra, it has some resemblance to the *C. hirticollis*, but is a perfectly distinct species.

[Fig. 10 of the plate by an error represents a variety of *C. pusilla*.—SAY, MS. correction.]

11. *C. DECEMNOTATA*.—Green above, tinged with cupreous; elytra margined with bright green or bluish, four white spots and an intermediate refracted band.

C. 10-notata American Entomology, pl. 6. Journ. Acad. Nat. Sciences, p. 19. [Ante, 1, 34.]

Length three-fifths of an inch, nearly.

Inhabits with the preceding.

Desc. Head green, varied with cupreous and blue; front hairy, labrum white, unequal, edge black, and tridentate; antennæ fuscous, basal joints variegated; palpi dark purple, varied with green. Trunk, green, a little bronzed each side; thorax

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bluish, the bilobate disk cupreous; scutel blue; elytra dull olivaceous-green, with a slightly cupreous tint and blue margin, four white dots and refracted band; of the anterior marginal dots, one is placed on the humerus, and the second equidistant from the band, which is refracted at the centre of the elytron, and terminated near the suture, in a transverse line with the penultimate spot; this last is large, submarginal, and orbicular; terminal spot transversely triangular, and with the first interrupting the margin; sutural angle not mucronate. Abdomen, venter bluish-green, with a few hairs each side; tail purple.

The specimen from which this description was taken is a female; it resembles *C. purpurea* in its differently colored elytral margin, but is sufficiently distinct from that insect by its more numerous spots, &c. [424]

[The figure is so different from that given in American Entomology, ante 1, 34, that it is impossible to believe that both have been taken from the same specimen. The present figure evidently belongs to one of the western varieties of *C. punctulata*, but the description does not agree with that species.—LEC.]

12. *C. pusilla*.—Body above blackish obscure, beneath black-blue or greenish; trochanters testaceous; elytra with two lunules, an intermediate band, which is divaricated on the margin.

C. pusilla, Journ. Acad. Nat. Sci., p. 21. [Ante, 2.]

Length less than half an inch.

Inhabits with the preceding.

Desc. Head dark green, obscure; antennæ fuscous, bronzed-testaceous or greenish at base; labrum white sinuate, and brown on the edge, with six or eight marginal punctures; palpi testaceous, bronzed at tip; front naked. Trunk obscure; thorax with the impressed lines not differently colored; elytra black, each with two lunules and a recurved band, attenuated, anterior lunule elongated, much narrowed, acute at tip, posterior one not dilated at the suture, and incurved from the margin; band dilated near the margin into a triangle, recurved before the middle, and passing very obliquely and nearly in a right line, to its termination near the suture, sometimes obsolete at tip; feet testa-

ceous, thighs dark green. Abdomen, venter dark blue, segments tipped with bronze, almost naked each side; tail purple.

Var. a. Elytra destitute of the intermediate band.

This is the smallest of our species, being less than *punctulata*, and of the most sombre coloring; the lunules and band hardly relieved by a contrast with the general surface, as they are very narrow.

The preceding descriptions were drawn out from specimens in my possession, the three last species, were caught by [425] Mr. Thomas Nuttall on the Missouri, and now form a part of his collection; to him I am indebted for the permission to describe them. Specimens of those for which I have referred to Melsheimer's Catalogue, were sent me by the Rev. John Melsheimer of Hanover, a zealous entomologist, and son of the author of that work, who may justly be entitled the father of entomology in this country.

In order that the present paper may comprehend all the known North American species of this genus, and thereby present a complete Monograph, I subjoin from Fabricius, three descriptions of species, which have not fallen under my notice; I therefore have taken the liberty to translate his description as follows:—

13. C. VIOLACEA.—Bright blue polished; labrum white.

Inhabits Carolina.

Cabinet of Mr. Bosc.

Desc. Of a medium size; body bright blue, polished, covered with elevated scabrous punctures; antennæ dark brown at tip; labium (labrum) and base of the mandibles above white. Syst. Eleut. part 1, p. 232.

Is not this referable to the genus *Megacephala*?

14. C. ABDOMINALIS.—Black, labrum and lunule at the apex of the elytra white; abdomen rufous.

Inhabits Carolina.

Cabinet of Mr. Bosc.

Desc. Smaller than *C. germanica*; head and thorax cylindrical, black-cupreous, a little polished; labrum [426] white; elytra black, an obscure line of impressed punctures at the suture,

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and white lunule at tip; body and feet greenish-brassy, polished; abdomen ferruginous. Syst. Eleut. part 1, p. 237.

15. *C. MICANS*.—Head and thorax cupreous polished; elytra obscure; minute points and lunule at the apex white.

Inhabits North America. Syst. Eleut. part 1, p. 238.

It is highly probable that this description was intended to designate an insect very similar to the *C. puactulata*, perhaps the same, or only a variety of it, for it is as characteristic of that species as it can be of any other.

[From Transactions of the American Philosophical Society, New Series, Vol. 2, No. 1, 1823.]

Descriptions of Insects of the Families of **CARABICI** and **HYDROCAN-**
THARI of Latreille, inhabiting North America.*

Read August 26th, 1819.

In the first volume of the New Series of the Transactions of this Society, I commenced the regular description of our North American insects, by a Monograph of the indigenous *Cicindeletæ*; a Linnæan genus which occupies the first station in the improved classification of Latreille.

I now proceed to lay before the Society descriptions of such of our native insects, as were included by Linnè, in his three genera, *Carabus*, *Dytiscus*, and *Gyrinus*. The two former of these, but more particularly the first, are now considered as great families, constituting numerous genera, and agreeably to the order in which I have enumerated them, immediately succeeding the *Cicindeletæ*, in the system which I have adopted.

*The title page of the 2d vol. of the New Series of these Transactions bears date 1825, which was the time of completion of the volume, but the late Dr. T. W. Harris informed me in a letter, that he received from Mr. Say a copy of this paper, with the following addition to the title:—"Printed and published by Abraham Small, 1823." This, of course, gives Say's names precedence of those published by Germar in his *Sp. Ins. Nov.* in 1825.—**LSC.**
1823.]

The *Carabii* are very numerous, are insectivorous, terrestrial, commonly inhabiting moist places, under stones, or [2] fallen trees, under bark or on flowers, &c. They generally run briskly when disturbed, and many species diffuse a foetid odor, or discharge a peculiar, pungent, acetous gas.

The *Dytiscii* are much less numerous than the preceding, but are equally nourished by animal food. They inhabit the waters, occasionally visiting the surface for the purpose of respiration; they move with rapidity and ease through the water and the air, but on land their gait is embarrassed by the natatory form of the posterior feet.

The *Gyrini*, which are now included in the same family with the *Dytiscii*, are comparatively few in number of species, and those few are so intimately united in nature by a similarity of character and habit, that no division has yet been found necessary in the genus, which still remains unchanged as it was first established in the artificial system. These insects, like those of the preceding Linnæan genus, are insectivorous and aquatic; they do not, however, like them, remain at the bottom to seek their prey, but chiefly confine themselves to the surface. They describe graceful curvatures or gyrations on the surface of the water with a pleasing facility of movement, without exhibiting to the eye the oar-like feet by which that celerity is effected. When alarmed, they dive to the bottom with swiftness, carrying with them a globule of air, that their respiration may not be suspended. When irritated, they eject a lactescent fluid, which, in many instances, diffuses an agreeable odor, somewhat similar to that of the *Calycanthus floridus* of botanists. They fly with much ease and chiefly at night, but their movements on land are uncouth and embarrassed.

After thus briefly noticing the most prominent features exhibited by these insects, it may be proper to observe, that the descriptions are drawn out from such specimens only as have fallen under my own observation, and which I had an opportunity of examining and comparing together, in order the more effectually to indicate their differential characters. The individuals are chiefly preserved in my cabinet; and for such as I do not possess, I have carefully referred to those collections from which I

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have described them. I have scrupulously [3] retained all the specific names, which have been given by the late Rev. F. V. Melsheimer, in his Catalogue of the insects of Pennsylvania; excepting only such as have been previously employed in the same genera by other entomologists; and so far as I could ascertain them by the aid of the scientific intelligence of his son the Rev. J. F. Melsheimer, who has liberally furnished me with specimens from his collection. I am also indebted to Mr. Thomas Nuttall, who has confided to my care his entire collection, with permission to avail myself of the opportunity of describing such of them as are new.

I have not thought it necessary to draw out the generic descriptions at length, as this has already been done with sufficient detail by Professor Bonelli of Turin; whose excellent papers I have not yet had the good fortune to peruse. If, in the description of some of the species, I have been anticipated by the labors of this, or any author, I shall immediately relinquish my claims, and do justice to the real discoverers, when their labors shall meet my eye.

To the inflexible Linnæan entomologist, who may object to the numerous genera which are here adopted, I will merely observe, that each of those divisions which are here called families, he may regard as only genera, (as they coincide with those of Linnæus,) and to each of the species described he may add the characters of those divisions which are, in this essay, called genera; thus the system as it stands, complicated as it is by the vast accession of discoveries of recent date, will afford him every facility, which he might suppose to result from a scrupulous adherence to the Linnæan method.

The modern entomologist will readily perceive that I have not adopted all the genera of M. Bonelli, but that many of these are included under the genus *Feronia* of Latreille. In this respect I had no option; having no definitions of such genera, with the exception of those contained in the Règne Animal, many of which are too brief to be exclusively relied upon.

ENUMERATION OF SPECIES.

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| <p>BRACHINUS.
 B. fumans.
 CYMINDIS.
 1. C. sinuatus.
 2. C. decorus.
 3. C. viridipennis.
 4. C. purpureus.
 5. C. pilosus.
 LEBIA.
 1. L. tricolor.
 2. L. vittata.
 3. L. atriventris.
 4. L. ornata.
 5. L. viridis.
 6. L. platicollis.
 GALERITA.
 G. americana.
 ODACANTHA.
 1. O. pennsylvanica.
 2. O. dorsalis.
 SCARITES.
 S. subterraneus.
 PASIMACHUS.
 1. P. depressus.
 2. P. subsulcatus.
 CLIVINA.
 1. C. bipustulata.
 2. C. viridis.
 3. C. lineolata.
 4. C. pallida.
 5. C. sphæricollis.
 6. C. globosa.
 7. C. pallipennis.
 MORIO.
 M. Georgiae.
 HARPALUS.
 1. H. caliginosus.
 2. H. bicolor.
 3. H. erraticus.
 4. H. pennsylvanicus.
 5. H. faunus.
 6. H. herbivagus.
 7. H. similis.
 8. H. vulpeculus.
 9. H. iripennis.
 10. H. viridis.
 11. H. hylacis.
 12. H. rusticus.
 13. H. carbonarius.
 14. H. agricolus.</p> | <p>15. H. baltimoriensis.
 16. H. cænus. [5]
 FERONIA.
 1. F. musculus.
 2. F. basillaris.
 3. F. impuncticollis.
 4. F. angustata.
 5. F. obesa.
 6. F. lineola.
 7. F. pallipes.
 8. F. atrimedia.
 9. F. longicornis.
 10. F. unicolor.
 11. F. stygica.
 12. F. mæsta.
 13. F. sigillata.
 14. F. placida.
 15. F. tartarica.
 16. F. muta.
 17. F. submarginata.
 18. F. impunctata.
 19. F. ventralis.
 20. F. adoxa.
 21. F. gregaria.
 22. F. terminata.
 23. F. autumnalis.
 24. F. limbata.
 25. F. parmata.
 26. F. cupripennis.
 27. F. convexicollis.
 28. F. honesta.
 29. F. 8-punctata.
 30. F. nutans.
 31. F. cincticollis.
 32. F. decora.
 33. F. decentis.
 34. F. extensicollis.
 35. F. ochropeza.
 36. F. lucublanda.
 37. F. chalcites.
 38. F. caudicalis.
 39. F. interstitialis.
 40. F. obsoleta.
 41. F. punctiformis.
 42. F. recta.
 43. F. hypolithos.
 ABAX.
 A. coracinus.
 EPOMIS.
 E. tomentosus.</p> | <p>CHLÆNIUS.
 1. C. sericeus.
 2. C. æstivus.
 3. C. lithophilus.
 4. C. emarginatus.
 5. C. pusillus.
 6. C. laticollis.
 7. C. impunctifrons.
 8. C. nemoralis.
 9. C. solitarius.
 10. C. pennsylvanicus.
 DICÆLUS.
 1. D. purpuratus.
 2. D. dilatatus.
 3. D. furvus.
 PANAGÆUS.
 1. P. crucigerus.
 2. P. fasciatus.
 CYCHRUS.
 1. C. elevatus.
 2. C. unicolor.
 3. C. stenostomus.
 4. C. bilobus.
 CALOSOMA.
 1. C. scrutator.
 2. C. calidum. [6]
 CARABUS.
 1. C. sylvosus.
 2. C. interruptus.
 3. C. limbatus.
 4. C. serratus.
 NEBRIA.
 N. pallipes.
 OMOPHRON.
 O. labiatum.
 ELAPHRUS.
 E. riparius.
 NOTIOPHILUS.
 N. semistriatus.
 BEMBIDIUM.
 1. B. honestum.
 2. B. punctato-striatum.
 3. B. lævigatum.
 4. B. dorsalis.
 5. B. contractum.
 6. B. niger.
 7. B. oppositum.
 8. B. affinis.
 9. B. inornatum.</p> |
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| 10. <i>B. flavicaudus</i> . | 2. <i>C. fenestralis</i> . | 3. <i>H. niger</i> . |
| 11. <i>B. proximus</i> . | 3. <i>C. ambiguus</i> . | 4. <i>H. catascopium</i> . |
| 12. <i>B. lævum</i> . | 4. <i>C. seriatus</i> . | 5. <i>H. lacustris</i> . |
| 13. <i>B. variegatum</i> . | 5. <i>C. nitidus</i> . | 6. <i>H. affinis</i> . |
| 14. <i>B. tetracolum</i> . | 6. <i>C. bicarinatus</i> . | <i>HYDROCANTHUS</i> . |
| <i>TRECHUS</i> . | 7. <i>C. venustus</i> . | <i>H. iricolor</i> . |
| 1. <i>T. conjunctus</i> . | 8. <i>C. glyphicus</i> . | <i>HALIPLUS</i> . |
| 2. <i>T. partiaris</i> . | 9. <i>C. obtusatus</i> . | 1. <i>H. 12-punctatus</i> . |
| 3. <i>T. rupestris</i> . | 10. <i>C. stagninus</i> . | 2. <i>H. triopsis</i> . |
| <i>DYTISCUS</i> . | <i>LACCOPHILUS</i> . | <i>GYRINUS</i> . |
| 1. <i>D. fimbriolatus</i> . | 1. <i>L. maculosus</i> . | 1. <i>G. americanus</i> . |
| 2. <i>D. verticalis</i> . | 2. <i>L. proximus</i> . | 2. <i>G. emarginatus</i> . |
| 3. <i>D. mediatus</i> . | <i>HYDROPORUS</i> . | 3. <i>G. analis</i> . |
| 4. <i>D. tæniolis</i> . | 1. <i>H. undulatus</i> . | 4. <i>G. limbatus</i> . [7] |
| <i>COLYMBETES</i> . | 2. <i>H. oppositus</i> . | |
| 1. <i>C. erythropterus</i> . | | |

Order and Section.—*COLEOPTERA PENTAMERA*.

Tribe I.—*ENTOMOPHAGA*. Family II.—*CARABICI*.

BRACHINUS Web. Fabr.

Anterior tibia emarginate; elytra truncated at tip; palpi filiform; labium subquadrate; neck none; abdomen with interior vesicles inclosing a caustic, volatile, and detonating fluid; nails simple.

B. FUMANS.—Ferruginous; elytra blue-black; venter, testaceous-black.

Brachinus fumans, ferruginous; elytra blackish-azure. Fabr. Syst. Eleut., p. 219.

Body ferruginous, with numerous minute hairs; head, front longitudinally impressed, each side near the base of the antennæ; thorax with a longitudinal impressed line from the head to the scutel; scutel minute, blackish-brown; elytra blackish-azure; about seven slightly impressed, very obtuse grooves, more distinct near the suture, and obsolete at the outer margin; separating lines rounded; venter dark reddish-brown.

Length eleven-twentieths of an inch.

Rather common under stones, &c., in various parts of North America. In common with the other species of the genus, it discharges from the posterior extremity of the body, when [8] alarmed or irritated, a caustic fluid; this is remarkable by an 1823.]

audible detonation, with its accompanying cloud of smoke as in the discharge of a gun.

CYMINDIS.

Anterior tibiæ emarginate; elytra truncated at tip; exterior maxillary palpi filiform; labials terminated by a securiform joint; neck none; body depressed and destitute of the secretory organs which furnish the detonating fluid; nails pectinated.

1. *C. SINUATUS*.—Black; feet testaceous; elytra with a pale humeral spot and margin.

Length one-fourth of an inch.

Body punctured, glabrous; antennæ, labrum, and palpi rufous; thorax transverse, slightly contracted behind, lateral edge abruptly and minutely excurved behind, forming a minute acute angle, basal lines obsolete, basal edge sinuately rounded; elytra blackish-brown, with a pale, rufous, humeral spot, margin and obsolete geminate spot behind, striæ acute, punctured, interstitial lines flat broad; postpectus, punctures obsolete; feet testaceous; venter impunctured.

Found by Mr. J. Gilliams in Maryland.

[Afterwards described by Dejean as *C. pustulata*; it belongs to the genus *Apenes* Lec. Ann. Lyc. Nat. Hist. New York, 5, 174.—LEC.]

2. *C. DECORUS*.—Head blue; thorax rufous; elytra green polished.

Length three-tenths of an inch.

[9]

Carabus decorus, alatus, cyaneus, thorace pedibusque rufis. Fabr. Syst. Eleut.

Head blackish-blue, obsoletely punctured; beneath purple black; antennæ fuscous; two basal joints rufous-obscure; mouth black; mandibles rufous beneath; trunk rufous, impunctured; beneath somewhat paler; thorax with an impressed line and obsolete transverse rugæ; elytra green polished, with punctured striæ; deflected edge purplish; feet rufous; tips of the thighs and base of the tibiæ black; penultimate tarsal joints bilobated; venter obscure bluish-black.

Found by Mr. Nuttall on the Missouri.

[Belongs to *Calleida* Dej.—LEC.]

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3. *C. VIRIDIPENNIS*.—Elytra green, polished, margined with cupreous.

Carabus prasinus Melsh. Catalogue.

Inhabits Pennsylvania; rare.

Body destitute of hairs; head purple-black; vertex glabrous; front impressed each side near the antennæ; antennæ testaceous, rather darker towards the tip; thorax green, tinged with purple; a longitudinally impressed line, and transverse, minute, parallel rugæ; posterior angles angulated; beneath purple-black, green each side; feet purple-black, paler towards the tips; penultimate tarsal joint bilobate; scutel testaceous; elytra striate, green, polished, reflecting in some lights a slight purpurescent tinge; outer margin cupreous; striæ distinct, acute, distant, the marginal one with distant punctures from the humerus to the apex; venter blackish.

Length half an inch.

This was sent to me by Dr. J. F. Melsheimer; I have not found a specimen, and therefore have considered it as a rare [10] species. The name *prasinus* having been already applied to a different species has rendered it necessary to change it.

[Belongs to *Culleida*, and described by Dejean as *C. marginata*.—LEC.]

4. *C. PURPUREUS*.—Purple or violaceous; antennæ, mouth and tibiæ black.

Length seven-twentieths of an inch.

Head obsoletely punctured, deep violaceous; antennæ fuscous, three basal joints rufous, obscure; trunk deep violaceous; a longitudinal impressed line, and transverse obsolete rugæ; elytra deep violaceous, obsoletely punctured, and with minutely punctured, acute, distant striæ; a line of marginal punctures; tibiæ and tarsi black-brown; penultimate tarsal joint bilobate; venter violaceous; tail black.

In form and magnitude resembles *C. viridipennis*, but is more depressed and wider. Brought by Mr. Nuttall from the Missouri.

[I have referred this species to *Glycia* Chaud., but have since failed to find sufficiently distinct characters for that genus to enable me to confirm this reference. The present species belongs to 1823.]

longs to a genus, which, like *Apenes*, has the labial palpi very much dilated, and the clypeus separated from the front by a well defined line; it differs, however, by the thorax not being pedunculated at base, but only very slightly rounded, nearly truncate.—LEC.]

5. *C. PILOSUS*.—Black-brown, punctured; mouth, antennæ and feet rufous; elytra with punctured striæ and interstitial lines.

Carabus pilosus Melsh. Catalogue.

Body somewhat hairy; head deeply punctured; no distinct frontal impression; antennæ and mouth rufous; thorax with numerous, profound, approximate punctures, and a longitudinal, impressed line which hardly attains the anterior edge; elytra with punctured obtuse striæ which are subequal to the interstitial lines; punctures transverse, dilated, approximated; interstitial lines punctured; epipleura rufous, punctured; feet rufous; pectus punctured; venter obscure, rufous, with distant minute punctures.

Length two-fifths of an inch.

[11]

I have not met with a living specimen of this insect: it is rare.

Var. *α*. A longitudinal, rufous, humeral spot; punctures of the interstitial lines numerous, dilated. In the Philadelphia Museum.

Var. *β*. Thorax margined with rufous; a longitudinal, rufous, humeral spot.

Var. *γ*. Thorax, head, and humeral spots rufous.

The thorax of this species seems to vary in the length of its transverse diameter.

[Afterwards described as *C. pubescens* Dej.—LEC.]

LEBIA Latr. Bonell.

Anterior tibiæ emarginate; elytra truncated at tip; palpi filiform; terminal joint cylindrical, hardly truncate; thorax wider than long; penultimate tarsal joint bilobate; nails pectinated.

1. *L. TRICOLOR*.—Head black; mouth, antennæ, thorax and feet ferruginous; elytra green, polished.

Length about three-tenths of an inch.

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Head black, polished; front minutely corrugated; vertex glabrous; mouth labrum, and antennæ ferruginous or pale testaceous; thorax ferruginous, glabrous, very minutely rugose; a longitudinal impressed line; margin depressed and somewhat ciliated; angles rounded; beneath ferruginous; feet, color of the thorax; scutel color of the thorax; elytra profoundly striate; striæ impunctured; interstitial lines convex; marginal line interrupted by punctures from the humerus to the apex; venter blackish.

Length about three-tenths of an inch. [12]

Not uncommon in Pennsylvania. Found also by Mr. T. Nuttall on the Missouri. The name of *Lebias* has been more recently applied by Cuvier, to designate a genus of fishes.

2. *L. VITTATA*.—Rufous; elytra black, with a white fillet and yellowish margin; feet black.

Length rather more than one-fourth of an inch.

Winged; thorax orbicular, rufous; elytra black, with a white vitta. Fabr. Syst. Eleut. 1, p. 202, Mus. D. Yeates.

Antennæ black; head rufous; scutel small, rufous; elytra glabrous, shining black with a longitudinal white fillet in the middle; body ferruginous; legs black. Turt.

Antennæ black; head rufous; eyes black; thorax rufous, hardly broader than the head; scutel rufous; elytra black, slightly striated; exterior margin and triangular spot around the scutel rufous; a longitudinal white line on each; beneath fulvous; feet black with half of the thighs rufous. (Length of figure one-fourth of an inch.) Oliv. 3, p. 98, pl. 6, fig. 69, *a*, *b*.

Body impunctured, nearly destitute of hairs; head rufous; antennæ black-brown, rufous at base; palpi black; trunk rufous, glabrous; thorax with an impressed longitudinal line; elytra with acute distant striæ; two parallel black vittæ,—the outer one originating on the humerus and abbreviated near the middle of the tip,—inner one originating at the middle of the base, becomes common before the middle of the suture, and is abbreviated near the inner angle of the tip; an elongated common whitish triangle at base, a white vitta on the middle, and a pale rufous margin and tip; feet black; nails pectinated; coxæ rufous; venter rufous.

Var. *a*. Color of the outer margin extended round the base to 1823.]

the scutel, thighs rufous at base, common black vitta continued to the tip.

If the figure given by Olivier be correct, the specimens [13] here described must be considered a variety. Several individuals were brought from the Missouri by Mr. Nuttall. They are occasionally taken in Pennsylvania, on flowers. When recent, it is of a much more bright red than when long preserved in the cabinet. The red becomes pale and the white vitta yellowish.

Caught in Mr. R. Haines's garden, Germantown.

3. *L. ATRIVENTRIS*.—Ferruginous; elytra deep purple; venter black.

Length one-fourth of an inch.

Body impunctured, naked or with very few hairs; antennæ brown, three first joints ferruginous; palpi blackish; thorax, disk convex; margin towards the hind angles depressed, hind angles rounded; a longitudinal impressed line; elytra deep blue, with acute, distant, not deeply impressed striæ, a series of punctures on the external margin from the humerus to the middle of the tip; punctures more distant on the middle of the margin; nails pectinated; venter black.

Found under stones, &c.

4. *L. ORNATA*.—Rufous; head and elytra black; the latter with a yellowish edge and four spots.

Carabus 4-notatus Melsh. Catal.

Length, male one-fifth—female one-fourth of an inch.

Body impunctured and almost destitute of hairs; head black; three basal joints of antennæ rufous; trunk rufous, paler beneath; thorax with an obsolete longitudinal impressed line; disk somewhat convex; margin depressed; feet pale; nails pectinated; elytra striated; striæ acute, distant; two large subtriangular or subovate spots near the base; two smaller ones near the tip; and outer edge yellow; [14] venter pale yellow or reddish-brown.

Var. *α*. The two basal spots of the elytra wanting.

Var. *β*. Head corrugated. Probably a distinct species.

This species varies in the form of the basal spots, which are sometimes elongated or confluent with the margin, and either abbreviated or attaining the base. The posterior spots also occur enlarged, so as to be confluent with the apical margin. It

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strongly resembles *Dromius 4-maculatus*, but the venter is not black, and the spots of the elytra are differently formed.

On flowers, (the blossom of the blackberry, &c.) in May, June, July and August. Not uncommon.

The name *4-notatus* has already been made use of in this genus; I have therefore been compelled to change it.

[The species afterwards described by Dejean as *L. analis* is subsequently claimed as this species, and it is certain that varieties α and β are so correctly referred: with regard to the type, however, I believe that Say has described *L. axillaris* Dej., thus confounding these two very distinct species.—LEC.]

5. *L. VIRIDIS*.—Green, polished, immaculate; antennæ, palpi and feet black.

Length upwards of one-fifth of an inch.

Body impunctured, nearly destitute of hairs; head green, with a few obsolete punctures; antennæ black-brown; labrum and palpi blackish; nasus cupreous; trunk green polished, beneath darker; thorax with an impressed line; elytra obsolete; striæ distant, acute; outer margin punctured; a single puncture near the inner tip; feet black; nails pectinated; venter blackish-green.

Var. a. Dark purplish blue; striæ of the elytra indistinct, beneath purple-black; antennæ black.

Very common on flowers. The thorax and elytra, when examined by a high magnifier, are granulated.

6. *L. PLATICOLLIS*.—Rufous; elytra black-brown edged with rufous; margin of the thorax depressed. [15]

Length nearly two-fifths of an inch.

Head dark rufous, tips of the mandibles and eyes black; thorax rufous, impunctured, rather wider than long, widest before the middle, somewhat narrowed behind; hind angles very obtuse; margin depressed; dorsal line slightly impressed; basal lines obsolete; elytra blackish-brown, with a pale rufous edge; striæ acute; interstitial lines flat; feet testaceous; venter dusky, blackish towards the tip, and on the tips of the segments.

Var. a. A humeral, submarginal, pale rufous, longitudinal spot; disk of the thorax dark rufous, margin pale. Museum of Mr. Peale.

1823.]

This species is perhaps a *Dromia*, [*Dromius*.]

[Afterwards described as *Cymindis complanata* Dej.; it belongs to the genus *Pinacodera* Schaum, Ins. Deutschl. 1, 294.—LEC.]

GALERITA Fabr.

Anterior tibia emarginate; elytra truncate at tip; palpi securiform; tongue exerted, coriaceous in the middle, membranaceous each side, and pointed at tip; neck distinct; penultimate tarsal joint bilobate.

G. AMERICANA.—Black; thorax and feet ferruginous; elytra black-blue.

G. americana black; thorax ferruginous; elytra azure. Fab. [Syst. Eleut. 2, p. 214. Latr. Règne Animal.

Carabus Janus Fab. Syst. Eleut. 1. 136, 51.

Carabus bicolor Drury Ent. 1, tab. 42, fig. 2.

Zuphium americanum Lamarck, An. San. Vert., Vol. 4, p. 505.

Antennæ reddish, filiform, a little longer than half the body; head black, advanced; thorax narrow, subcordate, reddish; elytra black or blueish black, striated; beneath black; feet reddish, long. N. Amer. Cab. of M. Gigot d'Orey, Oliv. 3, p. 63, t. 6, f. 72.

Galerita americana Edinb. Encyc.

Length three-fourths of an inch.

[16]

Body with very short dense hairs; head black; front with two indented lines; vertex with an obsolete rufous spot; antennæ testaceous; second, third, fourth, and tip of the first joints black; palpi testaceous; thorax and feet ferruginous; elytra black-blue opaque; about eight distant, acute, impunctured striæ.

Very common under stones, &c. in various parts of the United States, and in Florida. Found also by Mr. Nuttall on the Missouri.

[*G. Janus* is the name now adopted for this species.—LEC.]

ODACANTHA Fabr.

Anterior tibiæ emarginate; elytra truncated at tip; head attenuated behind; palpi filiform; tongue exerted, coriaceous in the middle, and membranaceous each side.

1. *O. PENNSYLVANICA*.—Black; elytra rufous with punctured striæ at the base; marginal spot, sutural spot and tip black.

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Agra pensylvanica Edinb. Encyc.

Drypta pensylvanica Lamarck, An. San. Vert. 4, p. 505.

Body with a few distant hairs; head black, destitute of punctures, polished; antennæ, four basal joints rufous; thorax black, with excavated punctures each side, which disappear near the tips, a longitudinal impressed line each side above; feet pale testaceous; knees dusky or black; tarsi, penultimate joint entire; elytra rufous, striate with punctures which are obsolete behind the middle; a large, common, longitudinally oblong-oval black spot on the middle, and a common, transverse, terminal larger one, which is connected by the black hind [17] margin with a spot on the middle of the margin, which is also generally connected with the common middle one; venter glabrous, black, often with a slight testaceous shade before.

Not uncommon beneath stones, &c. Found also by Mr. T. Nuttall on the Missouri. It has been referred to the genus *Agra*, but the palpi are decidedly those of *Odacantha* as described by M. Latreille.

[Belongs to *Casnonia*.—LEC.]

2. *O. DORSALIS*.—Head black; thorax rufous; elytra testaceous; suture black.

Length three-tenths of an inch.

O. dorsalis Fabr. Syst. Eleut. 1, p. 239.

Head black; clypeus, labrum, mouth, and antennæ rufous. Thorax cylindrical, somewhat contracted before the base, punctured; punctures numerous, minute, sparse or wanting on the disk; a longitudinal dorsal impressed line, and an obsolete, dilated, dusky vitta on each side; elytra yellowish-white, striate; striæ regularly and distinctly punctured; a common blackish sutural line, dilated before the tip; pectus pale rufous; feet testaceous, tarsi, penultimate joint bilobate; venter blackish.

Inhabits the Southern States.

This ought unquestionably to form a distinct genus from that of the preceding species.

[Belongs to *Leptotrachelus*.—LEC.]

SCARITES Fab.

Anterior tibia emarginate and crenate; elytra entire; antennæ short, third and fourth joints moniliform, subequal; labrum short, dentated; mandibles elongated, dentate; palpi filiform; tongue dilated, very short, emarginate at tip; thorax rounded behind; body subcylindrical. [18]

S. SUBTERRANEUS.—Black, immaculate; head bisulcate before; elytra striated; feet, second pair, with two permanent spines on the tibiæ.

Length about nine-tenths of an inch.

Black; anterior feet digitated; head sulcated before; elytra striated; striæ smooth. Fabr. Syst. Eleut. I., p. 124.

Carabus interruptus Fuess. Arch. 161, t. 29, f. 4.

Black; head with two longitudinal impressions; elytra striated. Oliv. 3, p. 8, pl. 1, fig. 10.

Head with two indented parallel lines before, half the length of the head; mandibles profoundly canaliculate above, teeth above striated; antennæ attaining the base of the anterior feet, ferruginous, darker at base; labium subcarinate on the middle, with a double impression at base; gula with an impressed line which is furcate before. Trunk somewhat scabrous each side beneath; thorax, a longitudinal impressed line and a transverse anterior one; posterior edge emarginate; feet, second pair, armed with two permanent prominent spines, on the outer edge below the middle, of which the inferior one is larger; elytra distinctly and rather strongly striated; striæ impunctured; margin scabrous; epipleura glabrous; humerus carinated before, carina terminating abruptly in an angle.

Very common in almost every part of North America.

* PASIMACHUS Bonell. Latr.

Anterior tibia emarginate and crenate; elytra entire; antennæ short, third and fourth joints not moniliform; labrum dentated; mandibles strongly dentate; palpi filiform; tongue dilated, very short, and emarginate; thorax subcordate, truncate behind; body dilated, depressed. [19]

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1. *P. DEPRESSUS* black, glabrous; thorax and elytra margined with purple; elytra perfectly smooth.

Length eleven-tenths of an inch.

Carabus depressus Melsh. Catal.

Scarites depressus, thorax subquadrate, black; elytra glabrous. Fabr. Syst. Eleut., p. 123.

Scarites depressus, antennæ black, obscure at tip; head with two impressed lines before; thorax with a longitudinal impressed line; borders sometimes black-blue; tarsi black brown. Oliv. 3, No. 36, p. 5, t. 2, f. 15.

Body glabrous, black, impunctured; head transverse quadrate, with two indented longitudinal lines more than half its length; antennæ black-brownish at tip; first joint black; labrum unequal; mandibles as long as the head, strongly dentate in the middle; tooth in the left one double; thorax with an impressed line and two indentations near the base; exterior margin purple; excurved near the base; elytra glabrous, perfectly smooth; outer margin purple, with a line of elevated granules; tarsi black-brown.

Var. *a*. Less dilated; margins blue; elytra smooth, with a slight appearance of lines; sternum striated at tip. From the Missouri.

Cabinet of Nuttall.

This fine large insect is of frequent occurrence in the United States beneath old logs, stones, &c., and is very probably the same as the *depressus* of Cayenne; to which country authors have referred this species.

[Var. *a* is a distinct species, afterwards described by me as *P. elongatus*.—LEC.]

2. *P. SUBSULCATUS*.—Black, glabrous; thorax and elytra margined with bluish purple; elytra with obsolete lines.

Length four-fifths of an inch.

Body black, impunctured; [20] head impressed, frontal lines profound; antennæ with ferruginous hairs toward the tip; thorax margined with blue-purple, slightly contracted behind; edge near the posterior angles slightly excurved; dorsal and basal lines very distinct; elytra with broad shallow sulcations; with (in some parts) obsolete rudiments of punctures; interstitial lines slightly elevated,

convex, obtuse; margin blued-purple, with a regular series of minute, elevated, ocellate granules.

I found several specimens of this insect in Georgia and Florida. It is sufficiently distinct from the preceding; being smaller, more of an oval form, the thorax less contracted at the base, and the elytra subsulcate; the lateral edge also is excurved at the base, which character distinguishes it at once from the *marginatus* of Fabr. and the *sublævis* of Palisot. How closely it may correspond with the *sulcatus* of Macleay I am unable to determine, not having yet seen his work.

I have to regret the circumstance of my not having it in my power to refer to M. Palisot de Beauvois's splendid work on the insects of Africa and America. The seventh number only, belonging to the library of the Philadelphia Museum, has yet met my eye; although I have made several attempts to procure an entire copy of the work from Paris.

CLIVINA Latr.

Anterior tibiæ emarginate and crenate; elytra entire; labrum entire; mandibles with obsolete teeth; tongue prominent, membranaceous each side; thorax rounded.

1. *C. BIPUSTULATA*.—Black; thorax impunctured; elytra with punctured striæ, and a large obscure rufous spot near the tip and at the base of each.

Length three-tenths of an inch.

[21]

Scarites bipustulatus? black; elytra striated; a large ferruginous spot behind. Fabr. 1. p. 125.

Scarites bipustulatus, Melsh. Catal.

Scarites 4-maculatus Palisot de Beauvois.

Body blackish; beneath piceous; head somewhat unequal before; antennæ and palpi reddish-brown; thorax black, impunctured; a longitudinal impressed line joining a transverse angulated one before; lateral carinated edge abbreviated and recurved at the tip; elytra brown-black, strongly striated; striæ nearly equal to the intermediate lines and punctured, punctures excavated; a large obsolete spot at the base, and a large and more distinct spot near the tips of each, rufous; epipleura with large and profound punctures at base.

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A large species by no means common. I think it highly probable that the *4-maculatus* of Palisot is no other than this insect; if so, the spots of the elytra, and especially those of the base, in his figure, are by far too distinct; indeed, the former are always obsolete and sometimes not at all visible.

2. *C. VIRIDIS*.—Dark green, beneath blackish; elytra punctured, cupreous on the disk, edge bluish; feet testaceous.

Length one-fourth of an inch.

Scarites viridis Melsh. Catal.

Body somewhat hairy; head equal, dark cupreous green; antennæ and mouth rufous; mandibles black at tip; trunk beneath reddish-black; thorax cupreous green, somewhat hairy; lateral carinated edge abbreviated, very oblique, rectilinear: a dorsal impressed line, and anterior, transverse, angulated one; elytra dark cupreous tinged with green, hairy; striæ obsolete, lines of distant punctures obsolete behind, margin greenish, edge blue, an impressed [22] line near the suture excurved at its base near the suture; feet testaceous.

[Belongs to *Ardistomis* Putz., afterwards described by Dejean as *Olivina rostrata*.—LEC.]

3. *C. LINEOLATA*.—Blackish; head with several elevated lines; thorax with three impressed ones; elytra striate.

Length one-fifth of an inch.

Head with several elevated lines, of which the two interior are largest, forming a groove between them, and continued and convergent upon the labrum; behind the elevated lines punctured: thorax three impressed longitudinal lines; intermediate one attaining the anterior transverse angulated one, lateral ones abbreviated near the anterior margin; lateral edge continued and projecting into a slight angle behind the middle; elytra black-brown or greenish, striæ punctured, profound, and equal to the intermediate lines; feet testaceous.

Readily distinguishable from the preceding ones by the elevated frontal lines as well as by the impressed line of the thorax.

[Belongs to *Schizogenius* Putzeys, and described by him as *S. sulcifrons*.—LEC.]

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4. *C. PALLIDA*.—Pale yellowish; thorax depressed, truncate before, lateral edge minutely angulated behind the middle.

Length one-fifth of an inch.

Body pale, yellowish, immaculate; head sulcated each side before; thorax little elevated, with a longitudinal impressed line, subquadrate, truncate the entire width before, rounded behind; lateral edge attaining the base, with a slightly projecting angle behind the middle, above which is a small puncture; elytra strongly striate-punctured; a marginal series of short transverse lines, forming quadrate intervals. [23]

Found on Chinquoteague Island, coast of Virginia, under yellow pine bark.

[This is perhaps *C. rufescens* Dej.; if it is not, I do not know the species.—LEC.]

5. *C. SPHÆRICOLLIS*.—Thorax globose, with an impressed line; elytra with punctured distant striæ.

Length one-fifth of an inch.

Body impunctured, with a few scattered hairs, beneath black; head black, longitudinally indented each side; mouth and antennæ rufous; thorax purple black, rounded before and behind; lateral edge obsolete near the base, more distinct before, and destitute of any angle behind; an impressed dorsal line; elytra reddish-brown or bronzed, with punctured striæ; striæ distant; feet dark rufous; venter black.

Differs from the succeeding species, in being larger and in having the striæ more distant from each other, or, in other words, less dilated.

This and the two following species belong to the genus *Dischyrius* of Bonelli.

6. *C. GLOBULOSA*.—Black; mouth, antennæ, and feet rufous; elytra with punctured obtuse striæ.

Length from one-tenth to five-fortieths of an inch.

Scarites globulosus Melsh. Catal.

Head black, longitudinally indented on each side; mouth and antennæ rufous; neck beneath rufous; trunk beneath black, tinged each side with rufous thorax purple-black, globose, rounded before and behind; lateral edge obsolete near the base, more

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distinct before, and destitute of a projecting angle behind; an impressed dorsal line; elytra black, striate-punctured; punctures equal in length to the intermediate spaces and nearly equal in breadth to the interstitial lines: [24] feet rufous; venter black.

This resembles *Scarites gibbus*, of which no description has been given, sufficiently characteristic, to enable us to judge of their differences. It may not be improper to observe here, that the same figure of Fuess. Arch. the 17th of plate 29, has been referred to, both for the *S. gibbus* and *Carabus? globator*; it is probable therefore that they are one species, particularly as Herbst calls it *globator*, and has the *S. gibbus* of Fabr., as a synonym.

7. C. PALLIPENNIS.—Reddish-brown, beneath black; elytra pale yellowish.

Length three-twentieths of an inch.

Body impunctured, beneath black, sides reddish-brown; head reddish brown; antennæ and mouth paler; thorax globose, somewhat truncated before, rounded behind, color of the head, a longitudinal impressed line, lateral edge obsolete behind; elytra pale yellow or whitish, striated; striæ distant, with obsolete punctures; an obsolete blackish oblique spot at base, another at tip, and a still less distinct one behind the middle; feet rufous; venter testaceous black, and (like the trunk) margined with rufous.

Found at Egg Harbor, coast of Virginia and Florida, and is common.

MORIO Latr.

Anterior tibiæ emarginate; elytra entire; palpi filiform: antennæ moniliform, joints subequal; tongue prominent, truncate at tip, and membranaceous each side; mandibles acute. [25]

M. GEORGICÆ.—Deep black above, beneath piceous-black; nasus with four elevated lines.

Length nearly three-fifths of an inch.

Scarites Georgicæ, piceous blackish; thorax subcordate; elytra canaliculate, striæ subrenate, those of the margin dentate. Palisot de Beauvois, vol. 1, No. 7, pl. 15, f. 5.

Body elongated, black, immaculate; head, an elevated line and groove over the eyes and base of the antennæ, two indented 1823.]

frontal lines; nasus, four elevated longitudinal lines; antennæ, ferruginous hairs at tip, basal joint piceous; labrum piceous-black, emarginated at tip; mandibles canaliculate on exterior base; thorax glabrous, narrower behind; angles acute; a strongly impressed dorsal line, and an abbreviated indented one each side at hind angles; exterior margin with six or eight hairs; a slight emarginure before the hind angles; no abbreviated stria near the scutel; elytra striate; striæ impunctured, slightly crenate, marginal one more conspicuously so; marginal interstitial line ocellately punctured from base to tip; humeral angles slightly acute.

I found two specimens under the bark of a decaying tree, in South Carolina; I have not met with any in this State.

[Subsequently described by Latreille as *Harpalus monilicornis*.—LEC.]

HARPALUS Latr.

Anterior tibiæ emarginate; four anterior tarsi dilated in the male; elytra entire; antennæ filiform, joints subcylindrical; labrum subquadrate, entire, or very slightly emarginate; palpi filiform; tongue exerted, cylindrical and coriaceous in the middle, and membranaceous each side, tip truncate, unarmed; neck none. [26]

1. *H. CALIGINOSUS*.—Black; antennæ, palpi, tarsi, and anterior coxæ ferruginous-brown.

Length one inch, breadth two-fifths nearly.

Apterous; thorax square, black-obscure; elytra striate; antennæ testaceous. Inhabits North America. Fabr. Syst. Eleut. 1, p. 188.

Antennæ and palpi ferruginous-brown; head smooth with two slightly impressed points before; thorax broad, smooth; scutel small, triangular; body black; thighs with a range of small impressed points. Oliv. 3, 35, pl. 6, f. 64, and pl. 7, f. 81.

Carabus politus Melsh. Catal.

Head glabrous; antennæ, palpi, and edge of the labrum ferruginous-brown; an indented puncture each side on the front; labrum slightly emarginate at tip; labium unarmed in the sinus; trunk beneath punctured; thorax with numerous minute punctures, longitudinal line obsolete, area of the hind angles depressed and confluent punctured, posterior angles acute; tarsi and

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coxae of the two anterior pairs of feet ferruginous-brown; elytra striate; striæ impunctured; margin opaque, with numerous minute punctures and a few larger ones; venter black, rarely piceous.

The largest species of the genus in this country; when irritated it diffuses a very pungent vinegar-like odor. If the species described by Fabricius is in reality apterous, as he supposes it to be, this insect is a distinct species, and the name given by Mr. Melsheimer will be retained. It is very common.

[Referred to *Selenophorus* and *Pangus*, which, however, are more properly united with *Harpalus*.—LEC.]

2. H. BICOLOR?—Black; beneath deep piceous: antennæ, palpi, and feet testaceous.

Length, male less, female more than three-fifths of an inch. [27]

Winged; body above black, beneath ferruginous. Inhabits North America. Mus. D. Lewin. Fabr. S. Eleut. 1, p. 195.

Resembles *C. ruficornis*; head black; thorax almost square, with a longitudinal line impressed in the middle, and two impressions posterior; elytra black, striated; body beneath brown, more or less clear. Cab. of M. Bosc. Oliv. 3, p. 57, tab. 11, f. 92, b. Length seven-tenths of an inch.

Carabus ostracicornis Melsh. Catal.

Head black; antennæ and mouth rufo-testaceous; gula piceous; thorax glabrous on the disk; a dorsal impressed line; area of the hind angles depressed and confluent punctured, posterior angles rounded; elytra striate; striæ impunctured, margin with numerous punctures; pectus and postpectus piceous-black, piceous on the disk, with obsolete punctures; feet testaceous, pale; venter piceous-black; tail paler.

A very common insect under stones, &c. It does not correspond with the description of *bicolor* of authors, but I do not know what other insect they allude to. Mr. Marsham describes this insect as an inhabitant of Great Britain.

[I consider this as *H. pensylvanicus* Degeer; it also appears to be *H. faunus* Dej.—LEC.]

3. H. ERRATICUS.—Reddish-brown, beneath testaceous; elytra fuscous; thorax a little contracted at base.

Length three-fifths of an inch nearly.

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Body glabrous, reddish-brown, beneath testaceous; head not darker than the thorax; antennæ fuscous towards the tip; thorax broad as the elytra, gradually contracted behind, marginal groove somewhat dilated, dorsal and basal lines distinct, continued to the base, anterior transverse line widely curved, base not wider than the tip, each side obsoletely punctured, basal edge rectilinear, lateral angles obtuse, slightly rounded; elytra darker than the thorax, striate, striæ impunctured, interstitial lines convex; [28] feet pale testaceous.

It is very probable that this species may prove to be the *H. pensylvanicus*, instead of the following one, as the thorax, in being narrowed behind, agrees with the figure Olivier has given of that insect.

[Incorrectly described by Olivier as *H. pensylvanicus*.—LEC.]

4. *H. PENSYLVANICUS*.—Reddish-brown; head darker, beneath testaceous; thorax punctured each side at base.

Length three-fifths of an inch.

Reddish-brown; head dusky; shells striate; body beneath, antennæ and feet testaceous. Inhabits Pennsylvania. Turt. p. 470. Degeer 4, t. 17, f. 22.

Head brown-testaceous, obscure; thorax brown-testaceous, nearly as broad as elytra, with a somewhat impressed line; elytra striated, brown-testaceous; body beneath and feet testaceous. Cab. of M. Banks. Oliv. 3, p. 72, t. 8, f. 92.

Head dusky reddish-brown; labrum darker, tip, excepting the central portion, depressed and hairy; mandibles black at tip; antennæ testaceous, paler at base; pectus and postpectus testaceous; thorax reddish-brown, as broad as the elytra, transversely quadrate, angles rounded, a dorsal slightly impressed line, base each side impressed and confluent punctured; elytra striate, striæ impunctured; interstitial marginal lines obsoletely punctured, exterior one with a few larger subocellate punctures; feet pale testaceous; venter pale testaceous.

[I have named this species *H. compar*. Dejean describes it as *H. bicolor*. The older figures and descriptions of De Geer and others seem to lead to the conclusion that *H. pensylvanicus* and *bicolor* are the same species, and that the names belong rather to the one above described as *H. bicolor*. For this reason I have

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considered it necessary to propose a new name for this very common insect.—LEC.]

5. *H. FAUNUS*.—Dark reddish-brown; antennæ, palpi and feet paler; thorax punctured behind.

Length half an inch.

Carabus faunus Melsh. Catal.

Body reddish-brown obscure, beneath rather pale; head, basal suture distinct; antennæ and palpi pale testaceous; thorax quadrate, hardly narrowed before or arquated at [29] the sides, hind angles rounded, dorsal line faintly impressed, basal lines dilated, and with the hind margin conspicuously punctured, lateral margin depressed, punctured; elytra striate, striæ with distant minute punctures, punctures of the marginal line not ocèllate; feet pale testaceous.

Of this insect I have seen but two specimens; one of which was sent me by my friend Dr. J. F. Melsheimer of Hanover.

[This was subsequently described as *H. badius* Dej.—LEC.]

6. *H. HERBIVAGUS*.—Deep black-brown, beneath piceous-black; labrum piceous-black; thoracic angles rounded; feet reddish-brown.

Length seven-twentieths of an inch.

Head black; antennæ and palpi testaceous; thorax, impressed line obsolete, lateral basal lines very distinct, margin somewhat depressed, posterior angles rounded, not depressed or punctured above; elytra, striæ impunctured, tip obtusely rounded, marginal punctures continued, edge ferruginous; feet reddish-brown.

Not uncommon. Very much resembles the next, but differs from it by the more obtuse termination of the body, &c. This may possibly be the *H. dubius* of Palisot, but his description is not sufficiently detailed to enable us to determine satisfactorily.

7. *H. SIMILIS*.—Blackish, beneath piceous-black; elytra greenish or cupreous; labrum ferruginous; posterior thoracic angles subacute; feet pale testaceous.

Length seven-twentieths of an inch.

Head purple-black; antennæ brown, base and palpi testaceous; labrum ferruginous; thorax purple-black, hind angles subacute and with the [30] margin slightly depressed, impunctured, 1823.]

dorsal line obsolete, basal lines subimpressed; elytra dark green or cupreous; striæ impunctured, edge ferruginous, tip acutely rounded; feet pale testaceous.

I collected this species in North Carolina, where it appears to be rather common. It is distinguishable from the preceding only by immediate comparison: the tips of the elytra when taken together are more acute, the labrum ferruginous, hind thoracic angles more acute, feet much paler, and the thorax more distinctly transverse.

[I consider this as probably the species subsequently described by Dejean as *H. agilis*, in which case it belongs to *Eurytrichus* Lec. It may however be *Gynandrotarsus harpaloides* Ferte, an insect from Texas, unknown to me.—LEC.]

8. *H. VULPECULUS*.—Rufous; elytra brownish, impunctured; posterior thoracic angles rectangular.

Length nearly two-fifths of an inch.

Body glabrous, beneath obsoletely punctured; head with the mandibles black at tip; thorax a little contracted behind, base each side depressed and punctured, dorsal line obsolete, lateral angles rectangular, basal edge rectilinear; scutel dark rufous; elytra blackish-brown, striæ profound, impunctured, interstitial lines convex, impunctured; pectus and postpectus obsoletely punctured; feet paler.

This, at first view, resembles *Feronia interstitialis*. I have but a single specimen, which is a female.

[Subsequently described as *H. nigripennis* Dej.; belongs to *Bradycellus*.—LEC.]

9. *H. IRIPEXNIS*.—Black; elytra black-blue iridescent; feet testaceous.

Length one-fourth of an inch.

Body black, beneath dark piceous; antennæ, labrum, mouth, and feet rufo-testaceous, the latter paler; thorax somewhat wider than long, widest in the middle, hardly narrower at base than at tip; lateral edge piceous, [31] almost regularly arquated; angles obtusely rounded; basal edge rectilinear; dorsal and basal lines obsolete; base with numerous slight punctures; elytra blackish, with blue and iridescent reflexions.

[Afterwards described by me as *Selenophorus varicolor*, having

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falsely applied the present name to a much larger species, which must therefore now be called *H. (S.) opalinus*.—LEC.]

10. *H. VIRIDIS*.—Green, beneath black; feet rufous; thorax punctured; elytra with minute hairs.

Length two-fifths of an inch.

Head tinged with bronze; antennæ and palpi rufous; labrum piceous; thorax before and at base slightly bronzed; punctures numerous, obsolete on the anterior disk; elytra slightly tinged with brassy, with acute, impunctured striæ, and numerous short hairs; interstitial lines flat; feet rufous; bears some resemblance to *Feronia lucublandus*.

[Previously described as *H. viridiæneus* Beauv. and subsequently as *H. assimilis* Dej.—LEC.]

11. *H. HYLACIS*.—Black; labrum, mouth, and feet testaceous; abdomen piceous; base of the thorax narrowed, angles obtuse.

Length three-tenths of an inch.

Body black, beneath piceous; labrum, mandibles, excepting at tip, palpi, three basal joints of the antennæ, and feet rufo-testaceous; antennæ dusky. Thorax of equal diameters, narrower at base than the elytra, broadest in the middle; lateral edge regularly arquated; angles very obtuse, posterior edge rectilinear; a longitudinal, slightly impressed, continuous line; basal lines very distinct. Elytra with a very slight greenish shade; basal joint of the anterior and intermediate tarsi dilated and granulated beneath, the remaining joints hardly dilated.

The first or basal joint of the anterior and intermediate [32] tarsi only is dilated, and it is granulated beneath as in *cænus*, and of course does not, strictly speaking, belong to this genus. The *baltimorensis*, *carbonarius*, *agricolus*, *cænus*, and *rusticus* have also granulations, or rather close set hairs on the dilated tarsi of the male. On account of this distinctive character, I should have referred them all to that division of *Feronia* in which M. Latreille places *Epomis*, &c., did not that author expressly state that insects of that division ought to have the two anterior tarsi only of the male dilated.

[Subsequently described as *Gynandropus americanus* Dej.—LEC.]

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12. *H. RUSTICUS*.—Deep black-brown; base of the antennæ, mouth beneath and palpi, and posterior thoracic angles reddish-brown; glabrous beneath.

Length from two-fifths to half an inch.

Carabus rusticus Melsh. Catal.

Antennæ brown, two basal joints reddish-brown; labrum black; maxillæ and palpi reddish-brown; thorax glabrous, a dorsal impressed line, and two abbreviated ones at base; margin not depressed, but continuing the general curve to the edge; hind angles obsoletely reddish-brown; elytra, striæ impunctured; second, fourth, and sixth interstitial lines punctured near the tip, marginal one with ocellate punctures not interrupted in the middle; pectus and postpectus not hairy.

Var. *a*. Elytra reddish-brown.

Very similar to *H. carbonarius* and equally common; but is readily distinguishable by the color of the thoracic angles, naked breast, punctures of the interstitial lines, &c.

[Belongs to *Anisodactylus*; *A. tristis* Dej. is merely a variety.—LEC.]

13. *H. CARBONARIUS*.—Black; palpi and base of the antennæ piceous; sternum and postpectus somewhat hairy. [33]

Length nearly eleven-twentieths of an inch.

Carabus carbonarius Melsh Catal.

Antennæ blackish brown, basal joints piceous; palpi piceous at the tips of the joints; vertex with an obsolete piceous spot visible in a particular light; thorax, dorsal line not deeply impressed; exterior and posterior lateral margin depressed and somewhat rugose; basal lines not definite; base not narrowed; elytra striæ not impunctured, punctures on the marginal interstitial line few and hardly ocellate, sixth interstitial line punctured near the tip; sternum a little hairy from the head to the tip; postpectus somewhat hairy on the disk; venter, first segment hairy beneath.

A very common species. The hairs beneath are small, and require the aid of the microscope to be discovered.

[Afterwards described as *Anisodactylus luctuosus* Dej.—LEC.]

15. *H. AGRICOLUS* [AGRICOLA].—Black; palpi and antennæ piceous, the latter paler at base; sternum and postpectus glabrous. Length from nine-twentieths to one-half of an inch.

Antennæ dusky piceous, basal joint light piceous; palpi piceous, paler at tip; vertex with an obsolete, piceous spot; visible in a particular light; thorax slightly narrower at base, dorsal line distinctly but not deeply impressed, lateral margin and a little rugose, spaces of the basal lines deeply impressed and densely punctured; elytra, striæ profound, impunctured; sixth interstitial line with a single puncture.

This species resembles the preceding one, but it has a shorter and more robust form, and the thorax is somewhat narrower at the base than in the middle, which is not the case in *carbonarius*. It is also common.

[*H. paradoxus* Hald., and *Anisodactylus striatus*, Lec. appear to be properly referred to this species.—LEC.]

16. *H. BALTIMORIENSIS*.—Black; elytra reddish-brown, blackish on the disk; feet pale testaceous. [34]

Length two-fifths of an inch.

Carabus baltimoriensis, Melsh. Catal.

Nasus with about three hairy punctures each side at tip; antennæ black-brown, base, labrum, palpi, and base of the mandibles pale reddish-brown; thorax black, somewhat narrower behind, posterior angles acute, dorsal line distinct, basal lines dilated, and with the posterior margin conspicuously punctured; scutel blackish; elytra, base, exterior and posterior margins reddish brown, common disk blackish; feet testaceous.

Distinguished from all the preceding ones by the thorax being much narrowed behind.

[Also an *Anisodactylus*, and considered as the previously described *Carabus St. crucis* Fabr.—LEC.]

17. *H. CÆNUS*.—Blackish, slightly tinged with green; palpi and base of the antennæ testaceous.

Length seven-tenths of an inch.

Carabus cænus Melsh. Catal.

Head green-black slightly tinged with cupreous; antennæ brown, three basal joints and palpi testaceous; thorax black, very 1823.]

slightly tinged with green, transverse; hind margin punctured as the middle, and equal to the base of the elytra; dorsal and posterior lines distinct, beneath black; elytra striate, striæ impunctured, acute, interstitial lines flat; feet testaceous; thighs testaceous black; dilated tarsi granulated beneath.

[Also an *Anisodactylus*.—LEC.]

FERONIA* Latr.

From this genus, as defined by Latreille, in the Règne Animal I have distinguished *Abax*, *Epomis*, *Chlœnius*, and *Dicælus*, as distinct genera. [34]

1. F. MUSCULIS.—Body oval, piceous; thorax at base as broad as the elytra.

Length one-fifth to one-fourth of an inch.

Body oval, dark piceous or blackish; beneath piceous; labrum piceous; antennæ and palpi rufous; thorax from the middle to the base as broad as the base of the elytra; hind angles subacute not depressed; lateral margin not depressed, but with an elevated line; dorsal and basal lines indistinct; elytra striate, striæ indistinctly punctured, lateral interstitial line serrate before and behind on the inner edge; feet rufous or piceous.

This species I found common on the eastern shore of Virginia, in October, on the blossoms of the kinks bush. When caught, like very many of the tribe, they diffuse a strong foetid odor. In Florida I took several specimens on the wing in a conflagrated salt marsh. Belongs to the genus *Amara* of Bonelli.

2. F. BASILLARIS.—Oval, blackish-bronzed, beneath black; feet piceous; thorax punctured each side at base, and as broad as the elytra; palpi blackish.

Length three-tenths of an inch.

Carabus smaragdulus Melsh. Catal.

Body oval, blackish bronzed or purplish black; beneath black; antennæ deep brown, three basal joints rufous; palpi black; thorax from the middle to the base as broad as the elytra, numerous distinct punctures each side at base, posterior angles acute, margin not depressed; elytra striate, striæ punctured,

*This name is also made use of in botany, and ought therefore to be changed.

marginal interstitial line serrate on the inner edge, margin tinged with green; feet deep piceous. [36]

Closely resembles *impuncticollis*, but the striæ of the elytræ and the hind angles of the thorax are punctured. The name *smaragdulus* having been appropriated to a very different insect, I have substituted that of *basillaris*. It belongs to the genus *Amara* of Bonelli.

[Afterwards described by Dejean as *Amara lucidula*.—LEC.]

3. F. IMPUNCTICOLLIS.—Oval, blackish-bronzed, beneath black; thorax impunctured and as broad at base as the elytra; palpi blackish.

Length three-tenths of an inch.

Body oval, slightly attenuated behind, blackish-bronzed or purplish black; antennæ brown, three basal joints rufous; palpi black; thorax from the middle to the base as broad as the base of the elytra, base impunctured, hind angles acute, dorsal and basal lines distinct, margin not depressed; elytra somewhat narrowed behind with impunctured striæ, lateral interstitial line serrate on the inner edge; feet piceous black.

This insect is not uncommon in Pennsylvania; it was also found by Mr. Nuttall on the Missouri. Corresponds with the characters of the genus *Amara* of Bonelli.

4. F. ANGUSTATA.—Oval, blackish cupreous, beneath black; feet rufous; thorax impunctured, as broad as the elytra; palpi rufous.

Length hardly one-fourth of an inch.

Body oval, above blackish cupreous, beneath black; antennæ and palpi pale rufous; thorax from the middle to the base as broad as the elytra, impunctured, posterior angles acute, margin not depressed, dorsal and basal lines distinct; elytra striate, impunctured, marginal interstitial line serrate on the inner edge; feet rufous. [37]

Taken by Mr. Nuttall on the Missouri. Resembles *basillaris* and *impuncticollis*, but is much smaller, and differs from the first by being impunctured, and from the last by the color of the antennæ, palpi, feet, &c. Belongs to the genus *Amara* of Bonelli.

[Afterwards described as *A. indistincta* Hald.—LEC.]

5. *F. OBESA*.—Black, beneath piceous; antennæ, mouth and feet rufous.

Length more than two-fifths of an inch.

Body black; antennæ and mouth reddish-brown; nasus and labrum very dark reddish-brown; thorax slightly margined, much punctured at base, dorsal line slightly impressed, basal lines distinct; elytra with striæ very distinctly punctured, interstitial lines depressed, beneath piceous; abdomen and feet reddish-brown.

A very short and wide species, belonging to the genus *Amara* of Bonelli. It was found at Harrowgate, the seat of my friend Mr. J. Gilliams.

6. *F. LINEOLA*.—Pale yellowish-testaceous; elytra each with a black line.

Length three-tenths of an inch full.

Carabus lineola, winged, ferruginous; elytra with a black line. Fabr. Syst. Eleut. 1, p. 197. Mus. D. Banks. Inhabits North America.

Carabus lineola, elytra striate; thorax paler, with two black linear spots. Turt.

Carabus lineola, ferrugineous; thorax equal, with two points; elytra with two black lines.

Like *C. ferruginosus*; antennæ ferruginous, as long as thorax; head ferruginous; thorax a little narrower than the elytra, ferruginous, with two points black, obscure; elytra ferruginous, striated, a line upon each bifurcated anteriorly; body beneath brown-ferruginous; feet ferruginous. Cab. of M. Banks. Oliv. 3, p. 78, pl. 7, fig. 75.

Head testaceous-yellow; antennæ subglabrous, and with the palpi paler; a black transverse line on the vertex, and tips of mandibles and eyes black; thorax color of the head, transverse, subquadrate, rather narrower than the elytra, angles rounded, a dorsal impressed line which is somewhat indented before, a black longitudinally rhombic spot each side of the middle, an irregular smaller one each side at base, and a transverse obsolete arquated one before; all beneath and feet paler, anterior ones five-spined on outer edge of the tibiæ, two terminal spines approximate; elytra paler than the thorax, each with a black, abbreviated, vitta, furcate before, and an abbreviated, black, obsolete band at base, striate; striæ acute, distant, impunctured; margin impunctured.

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Var. a. Thorax rufous, immaculate; head black.

This species I might have referred to *C. furcatus* of Fabr., had he not quoted for *lineola* a figure of Olivier's which agrees very well with this insect; an agreement to which, when combined with the accompanying description, no doubt can be attached.

Is not *furcatus* the same insect? I should suppose the species named *comma* to be also closely allied to it.

[Belongs to *Agonoderus*.—LEC.]

7. *F. PALLIPES*.—Head black; thorax and elytra pale testaceous, the former black on the disk, and rounded at the posterior angles, the latter with an abbreviated black vitta; beneath black; feet pale.

Length, male one-fourth—female three-tenths of an inch.

Carabus pallipes, winged, black; thorax rounded; thorax and elytra with a pale margin; feet pale. Fabr. Syst. Eleut. 1, p. 200. Mus. Dr. Hunter.

Inhabits North America.

Antennæ black, pale at base; head black; mouth ferruginous; elytra striate, black, border pale. Turt.

Antennæ ferruginous, obscure; head black; mouth and palpi ferruginous; thorax [39] black, margined with ferruginous; elytra striated black, border ferruginous pale; body beneath black; feet pale. Cab. Dr. Hunter.

Oliv. 3, pl. 9, f. 99. Carolina.

Carabus furcatus Melsh. Catal.

Body beneath black; head deep black; antennæ and palpi ferruginous; thorax pale testaceous; a large black spot occupying the disk, sometimes distinguished into several obsolete lines, a longitudinal impressed abbreviated line; feet pale; anterior ones six-spined on the outer edge of the tibia, two terminal spines approximate; elytra paler than the thorax, striated, impunctured, each with a broad, black, abbreviated vitta, which is separated from the suture by the first elevated line.

Var. α. Pale testaceous beneath.

Var. β. Elytra with a common black disk, formed by the junction of the vittæ at the suture.

Var. γ. Thorax immaculate.

Very like a *lineola*, but is a little smaller and more depressed; 1823.]

and otherwise sufficiently distinct. I should have been in doubt whether this species or the next was the true *pallipes* Fabr., had it not been for the specific character "*thorax rotundatus*" applied by that naturalist to his insect, a character more decidedly applicable to this species.

It is not uncommon, and appears to be a general inhabitant of this country. Nuttall found it on the Missouri.

[Also an *Agonoderus*.—LEC.]

8. F. ATRIMEDIA.—Pale rufous; head, disk of the thorax and of the elytra black; beneath black; feet testaceous; posterior thoracic angles acute.

Length one-fourth of an inch.

Body black beneath; head black; antennæ, base rufous; palpi rufous; thorax rufous, with a black disk, edge slightly excurved near the hind angles; hind angles acute; dorsal line distinct; [40] basal lines indefinite, indented; base each side punctured; elytra with impunctured striæ and depressed interstitial lines, pale rufous or testaceous with a common black disk, which is dilated behind the middle and attenuated before; feet testaceous.

A greater portion of the antennæ and feet were wanting in the specimen, but one of the anterior tarsi which was remaining was much more dilated than that of the preceding species. From the Missouri. Nuttall.

[A species of *Bradycellus*.—LEC.]

9. F. LONGICORNIS.—Apterous, dark piceous, beneath paler; antennæ rufous; feet testaceous.

Length rather more than half an inch.

Carabus longicornis Melsh. Catal.

Body glabrous, dark piceous, beneath piceous; front longitudinally indented each side; antennæ rufous, half as long as the body, the joints attenuated towards their bases; labrum truncate, rufous; palpi rufous; thorax contracted behind, edge slightly excurved at the hind angles, anterior transversely indented line profound, dorsal line at base abruptly canaliculate, basal lines dilated, suborbicular, profound, scabrous, extending from near the dorsal line to the angle; elytra, interstitial lines of the disk convex, glabrous, striæ obtuse, punctures approximate, trans-

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verse, extending upon the sides of the striæ, sixth and seventh striæ obsolete; feet testaceous.

This species is not of frequent occurrence; inhabits moist places under stones. It appears to belong to the genus *Percus* of Bonelli.

[Belongs to *Patrobus*, and afterwards described as *P. americanus* Dej.—LEC.]

10. F. UNICOLOR.—Apterous, glabrous, black; tips of the antennæ [41] brownish; tarsi piceous; striæ of the elytra punctured.

Length seven-tenths of an inch.

Body glabrous, black, impunctured; head, antennæ brownish towards the tips, joints attenuated towards the bases; labrum truncate; palpi piceous; thorax transverse, contracted behind rather abruptly, tip of the posterior angles obtusely rounded, sublobate; dorsal line not attaining the base, basal lines indented, excurved to the angles, anterior transverse line obsolete or wanting, lateral edge much rounded, abruptly excurved behind; elytra convex, striæ not deeply impressed, punctures longitudinal, abbreviated striæ near the suture, obsolete marginal interstitial line serrate with ocellate punctures, third line with a single puncture near the middle; feet black; tibia at tip and tarsi dark piceous.

This species is referable to the genus *Pterostichus* of Bonelli.

[I have separated the species having a single dorsal puncture, under the generic name *Evarthrus*.—LEC.]

11. F. STYGICA.—Apterous, black, glabrous, impunctured; striæ impunctured; basal thoracic lines dilated.

Length more than three-fifths of an inch.

Carabus stygicus Melsh. Catal.

Body black, impunctured, glabrous; antennæ rather surpassing the base of the thorax, brownish towards the tips, the joints attenuated towards their bases; palpi rufous; thorax, diameters subequal, gradually a little contracted behind, edge not excurved at the hind angles, hind angles not prominent, rounded, basal lines double, dilated, orbicular, and scabrous, base wider than the petiole; elytra slightly tinged with brown, striæ indented, impunctured, interstitial line convex, third with a single puncture 1823.]

behind; wings none; [42] feet black; tibiæ and tarsi deep piceous.

Belongs to the genus *Pterostichus* of Bonelli.

[A variety was afterwards described as *F. rugicollis* Hald.—LEC.]

12. *F. MÆSTA*.—Apterous, black, glabrous; thorax as broad as the elytra, much contracted behind; elytra very obtusely rounded behind, striæ impunctured.

Length seven-tenths of an inch.

Body black, glabrous, impunctured, rounded behind; antennæ brownish or ferruginous towards the tips; palpi piceous; thorax before the middle as broad as the base of the elytra, much contracted behind, posterior angles obtusely rounded, dorsal line very distinct, basal ones excavated, slightly punctured and placed at the lateral angles, base not wider than the petiole, basal edge rectilinear; elytra slightly tinged with purplish, very obtusely rounded behind, striæ profoundly indented, impunctured, interstitial lines very convex, third with about four distant punctures; postpectus, peduncle punctured each side; feet, thighs robust; tarsi piceous.

Is distinguished from *stygius* by the very narrow thoracic base, and very obtuse termination of the body.

[Subsequently described by Say as *F. superciliosa*. (Ante, 92;) and more recently by Newman as *F. relictæ*.—LEC.]

13. *F. SIGILLATA*.—Apterous, black, glabrous; thorax slightly contracted behind, anterior transverse line acute and deeply impressed; elytral striæ punctured.

Length more than seven-tenths of an inch.

Body black, glabrous, impunctured; antennæ brownish towards the tip; labrum dark piceous; mandibles obliquely striated above conspicuously; palpi piceous; thorax broadest before the middle, gradually a little contracted behind, dorsal line acute, impressed, continued, anterior transverse line acute, deeply impressed, resembling [43] a suture, area of the basal lines indented, each with two shorter oblique lines, lateral edge slightly curved, not perceptibly excurved near the base, basal angles rounded, base much wider than the petiole; elytra, striæ not very deeply impressed, distinctly punctured, abbreviated striæ

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near the scutel, obsolete, interstitial lines depressed, third one with two distant obsolete punctures behind the middle; wings none; pectus in some lights slightly tinged with green; tarsi piceous.

Resembles *tartaricus*, but is distinguished by the thoracic hind angles being less acute and the elytral striæ punctured; from *unicolor* it is at once distinguished by the less rounded form of the thorax and its less contracted base; from *stygius*, to which by form it is more closely allied, it may be readily separated by the punctured striæ, &c.

Found on Mr. R. Haines's farm, Germantown.

It belongs to the genus *Pterostichus* of Bonelli.

[Afterwards described as *F. vidua* Dej.; belongs to *Evarthrus*.—LEC.]

14. *F. PLACIDA*.—Blackish, glabrous; thorax transversely suborbicular, margined; elytra with acute impunctured striæ.

Length seven-twentieths of an inch.

Carabus peltatus Melsh. Catal.

Head purple-black slightly tinged with green; antennæ blackish, rufous at base; palpi rufous or piceous; thorax a little narrower than the elytra, transversely suborbicular, blackish, slightly tinged with green; margin depressed, edge a little recurved, particularly at the hind angles, which are not excurved; dorsal line and anterior transverse line impressed, basal lines almost obsolete in the concavity of the lateral base, which is a little rugous; elytra blackish with an obsolete purplish tint; striæ not profound, acute, impunctured; interstitial lines very slightly convex; [44] pectus and postpectus black; feet black; tibiæ and tarsi piceous; abdomen black.

[A *Platynus* of the division *Agonum*, and afterwards described as *A. morosum* Dej.—LEC.]

15. *F. TARTARICA*.—Entirely black, immaculate, glabrous; striæ of the elytra impunctured.

Length three-fourths of an inch.

Body glabrous, black; head frontal lines distinct; antennæ, ferruginous hair towards the tips, joints attenuated towards their bases; labrum truncate; thorax large, transverse, gradually a
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little contracted behind, base nearly equal to the base of the elytra, dorsal line profoundly and equally impressed, anterior transverse line more profoundly impressed, confluent with the marginal groove at the anterior angles, basal lines strongly impressed, excurved, and distinctly confluent with the marginal groove behind the angles, lateral edge excurved at the hind angles, posterior angles acute; elytra, striæ impunctured, interstitial lines very convex, third with three remote punctures, one near the base, one near the middle, and one towards the tip; feet black; tarsi piceous.

[This is a species of *Lophoglossus* Lec., and is most probably the one described by Dejean as *Feronia complanata*.—LEC.]

16. *F. MUTA*.—Black; thorax punctured each side at base; elytra with obsoletely punctured striæ.

Length half an inch.

Carabus adoxus Melsh. Catal.

Body glabrous, black; antennæ ferruginous towards tip, joints attenuated towards their bases; palpi piceous; thorax in the middle as broad as the elytra, gradually a little contracted to the base, where it is very slightly excurved; base somewhat depressed, and distinctly punctured each side, dorsal line distinctly continued to the base; [45] elytra, striæ obsoletely punctured, interstitial lines convex, third one with a puncture at the base, one in the middle, and one near the tip; feet black; tibiæ and tarsi piceous; postpectus punctured each side.

Differs from *adoxus*, to which it is closely allied, in having less robust antennæ, vestiges of punctures in the clytral striæ, the thorax more rounded and less excurved at the posterior angles, and the dorsal line not abbreviated behind.

[Also described subsequently as *Feronia morosa* Dej., and *Omaseus picicornis* Kirby.—LEC.]

17. *F. SUBMARGINATA*.—Blackish, glabrous, all beneath piceous; thorax with a depressed margin, the edge reflected, base each side, and elytral striæ punctured.

Length half an inch.

Antennæ and palpi deep piceous; labrum truncate, piceous; thorax in the middle as broad as the elytra, base punctured,

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marginal groove dilated, piceous, resembling a narrow depressed margin and reflected edge, dorsal line distinct, lateral edge not excurved near the hind angles, base wider than the petiole, posterior angles prominent and rounded; elytra, striæ punctured, interstitial lines convex, third one with a puncture behind the middle, and one near the tip; feet piceous; postpectus punctured each side behind the intermediate feet and at base; venter impunctured.

This species very much resembles *decentis*, but the thorax is more dilated, and the elytra narrower. It may be distinguished by having the postpectus punctured both at base and each side.

[Afterwards described by Germar as *Pæcilus monedula*.—LEC.]

18. *F. IMPUNCTATA*.—Black, glabrous, impunctured; antennæ and palpi pale rufous; feet testaceous.

Length a little more than two-fifths of an inch.

Body black, impunctured, glabrous; [46] antennæ slender, extending beyond the humerus, and with the palpi pale rufous; thorax broadest rather before the middle, contracted behind, margin a little depressed behind, the edge somewhat recurved, posterior angles obtusely rounded, base impunctured; elytra profoundly striated, striæ impunctured, interstitial lines convex, the third one with two distant punctures; feet testaceous.

Resembles *submarginatus* and *decentis*, but is entirely destitute of punctures; the form of the thorax also is perfectly distinct. I caught it on Mr. R. Haines's farm in Germantown.

[Belongs to *Pristodactyla*; described by Dejean as *P. americana*.—LEC.]

19. *F. VENTRALIS*.—Black, glabrous, all beneath piceous-black; thorax at base not wider than the pedicel of the postpectus.

Length rather more than two-fifths of an inch.

Body above black, polished, beneath piceous-black; antennæ piceous, with ferruginous hairs towards the tip; labrum deep piceous; palpi piceous; thorax before the middle as broad as the elytra, gradually much contracted behind, base hardly wider than the pedicel, lateral margin not depressed, edge not excurved behind, dorsal line slightly impressed, basal lines distinct, con-
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spicuously punctured; elytra narrowed behind, striæ punctured, interstitial lines hardly convex; pectus impunctured; feet rufo-testaceous; postpectus and venter punctured.

Very like *submarginatus*; but the form of the thorax is very different. It was taken in Missouri by Mr. Nuttall.

20. F. ADOXA.—Apterous, black, glabrous, impunctured; striæ impunctured; basal thoracic line not dilated.

Length half an inch.

[47]

Carabus adoxus Melsh. Catal.

Body black, glabrous, impunctured; antennæ robust, the joints attenuated towards their bases, and with the palpi dark rufous; labrum truncate, dark rufous; thorax large, impunctured, gradually contracted behind, edge excurved at the hind angles, dorsal line not attaining the base, basal lines strongly impressed, cutting the base near the angles; pectus impunctured; postpectus punctured; elytra, striæ impunctured, interstitial lines convex; feet piceous; abdomen piceous.

Corresponds with M. Latreille's definition of the genus *Pterostichus* of Bonelli.

[Afterwards described by Dejean as *Feronia tristis*.—LEC.]

21. F. GREGARIA.—Dark reddish-brown; limbs and margin of the thorax paler, thorax at base equal to the base of the elytra.

Carabus gregarius Melsh. Catal.

Length two-fifths of an inch.

Body dark chestnut, blackish each side beneath; head dark chestnut; eyes and mandibles at tip black; antennæ and palpi reddish-brown, the former half as long as the body; thorax rather longer than broad, impunctured, lateral margin distinct and with the posterior margin paler, the latter rather broader than at tip and equal to the base of the elytra, dorsal and posterior lines indistinct, angles rounded; elytra with impunctured striæ, margin paler and distantly punctured, without emargina near the tip, but regularly rounded in that part; epipleura distinctly canaliculate to near the tip; feet color of the antennæ, long; venter blackish.

Belongs to the genus *Calathus* of Bonelli and Latreille. [48]

22. F. TERMINATA.—Deep reddish-brown; elytra darker; antennæ and feet testaceous: thorax not contracted behind.

Length seven-twentieths of an inch.

Carabus terminatus Melsh. Catal.

Body dark reddish-brown; eyes blackish; antennæ and palpi testaceous, somewhat darker at tips; thorax transverse, with a distinct, depressed margin each side, not narrowed behind, posterior angles subacute, attaining the humeral ones, dorsal line indistinct; elytra somewhat opaque, darker than the thorax, striæ impunctured, suture and edge paler, marginal punctures distinct, a distinct sinus near the tip; feet testaceous; venter and postpectus blackish each side.

This species appertains to the genus *Calathus* of Bonelli.

[A Harpalide of the genus *Eurytrichus*.—LEC.]

23. F. AUTUMNALIS.—Blackish-brown; antennæ and feet testaceous, lateral edge not distinctly excurved behind.

Length three-tenths of an inch.

Carabus autumnalis Melsh. Catal.

Body depressed, deep blackish-brown; head black; antennæ and mouth yellowish testaceous, the former brownish towards the tip; thorax a little narrower behind, broadest before the middle, margin not depressed, dorsal and basal lines distinct, posterior angles subacute, hardly attaining the humeral angles, lateral edge not distinctly excurved behind; elytra blackish, polished, striæ impunctured, edge with a very obtuse sinus near the tip, marginal interstitial line serrate within; feet testaceous.

It seems to belong to the genus *Calathus* of Bonelli.

Resembles *terminatus*, but is smaller, and the thorax is a little narrowed behind, and is destitute of a depressed margin.

[Belongs to *Bradycellus*.—LEC.]

[49]

24. F. LIMBATA.—Dark reddish brown; thorax rounded; elytra deeply margined with testaceous; postpectus pedunculated.

Length from one-fourth to three-tenths of an inch.

Carabus limbatus Melsh. Catal.

Body deep reddish-brown; antennæ at base, and palpi paler; thorax suborbicular, margin not depressed, edge consisting of a simple elevated line, anterior angles subacute, dorsal line indis-

tinged, basal lines indented; pectus paler; feet testaceous; petiole distinct; elytra with distinctly punctured striæ, disk black-brown to the fifth stria, remaining margin testaceous, marginal interstitial line with a few larger punctures behind, none in the middle.

Rather rare.

[A *Platynus* of the division *Agonum*, and afterwards described by Dejean as *A. palliatum*.—LEC.]

25. F. PARMATA.—Black: thorax rounded; feet testaceous; elytra margined with testaceous; postpectus pedunculated.

Length three-tenths of an inch.

Carabus parmatus Melsh. Catal.

Body black; antennæ and palpi rufous; thorax transversely suborbicular, destitute of depressed margin or elevated edge; feet pale rufous: petiole very distinct; elytra striate, impunctured, disk black-brown to the sixth stria, margin pale rufous, marginal interstitial line slightly punctured on the inner edge; venter black.

Much resembles *F. limbata*, but the striæ of the elytra are not punctured and the edge of the thorax is destitute of an elevated line.

[Belongs to *Olisthopus*.—LEC.]

[50]

26. F. CUPRIPENNIS.—Green, polished; common disk of the elytra cupreous, brilliant.

Carabus metallicus Melsh. Catal.

Length seven-twentieths of an inch.

Head green; antennæ, labrum and palpi black; thorax impunctured, green varied with purple, rather narrower than the elytra, regularly curved each side to the bases, posterior angles none, dorsal and basal lines distinct, the latter dilated; elytra cupreous, brilliant, margin green, striæ acute, impunctured, interstitial lines flat; pectus and postpectus dark green; feet green; tibiæ and tarsi, and trochanters piceous.

Var. a. Elytra brilliant green slightly tinted with cupreous; head and thorax tinged with purplish.

A very beautiful and brilliant insect. The name *metallicus*

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having been applied to a very different insect, the above is substituted for it.

[A *Platynus* of the division *Agonum*.—LEC.]

27. *F. CONVEXICOLLIS*.—Green varied with cupreous, all beneath black; thorax submarginated, punctured behind.

Length more than seven-twentieths of an inch.

Body beneath black; head green, with slight cupreous reflections; labrum purple-black; mandibles black; thorax green, elevated portion cupreous, margin depressed more perceptibly towards the hind angles, breadth greatest in the middle, hardly contracted behind, base as broad as the elytra and punctured; elytra green, slightly varied with cupreous, particularly at the sutural base, striae with indistinct, distant punctures, interstitial lines somewhat convex, third one with three distant punctures behind the middle; postpectus punctured each side; feet black. [51]

I have seen but a single specimen, which was deficient in antennae, palpi, and also in tarsi, with the exception of two joints of the second pair; these were not dilated. It was brought from Missouri by Mr. Nuttall.

[Belongs to *Pæcilus*.—LEC.]

28. *F. HONESTA*.—Black; beneath and feet piceous; above impunctured; thoracic lines profoundly indented; lateral edge excurved behind.

Length more than three-tenths of an inch.

Body black with a piceous shade, beneath piceous; antennae and palpi rufous; labrum piceous; thorax impunctured, broadest before the middle, gradually contracted behind, dorsal and basal lines profoundly indented, lateral edge excurved near the base, basal angles rectangular; elytra piceous-black, deeply striated, striae impunctured, interstitial lines convex, third one with a puncture near the middle; postpectus each side and peduncle punctured; feet piceous; venter punctured each side at base.

[Afterwards described by Dejean as *Feronia fascidita*, and by Laporte as *Stomis americana*. Overlooking the dorsal puncture, I placed this species, Journ. Acad. Nat. Sc. 2d, ser. 2, 237, in the division of *Pterostichus*, having no dorsal puncture.—LEC.] 1823.]

29. F. 8-PUNCTATUS.—Green ; elytra with a common cupreous disk, third interstitial line with four distant, large, excavated impressions.

Length full three-tenths of an inch.

Carabus 8-punctatus Fabr. Syst. Eleut. 1, p. 186.

Body beneath dark green ; head green slightly varied with cupreous ; antennæ and palpi black ; thorax green, somewhat cupreous on the disk, rounded behind, lateral curve equal, hind angles none, dorsal line distinct, basal ones profoundly impressed ; elytra green opaque, common disk to the fourth striæ cupreous, polished, striæ acute, interstitial lines flat, third one with four distant, profoundly excavated, quadrate impressions ; [52] feet piceous.

Remarkable by the very conspicuous elytral series of dilated punctures. Mr. Marshal describes this species as a native of Great Britain.

[A *Platynus* of the division *Agonum*.—LEC.]

30. F. NUTANS.—Green, polished, beneath black ; elytra cupreous ; feet testaceous at base.

Length seven-twentieths of an inch.

Head green, beneath black ; antennæ, labrum, and palpi black ; thorax impunctured, green, rather narrower than the elytra, broadest in the middle, regularly arquated each side to the base, posterior angles none, dorsal and basal lines distinct, the latter dilated, orbicular, base not wider than the petiole ; elytra dark cupreous slightly tinted with greenish, striæ impunctured, interstitial lines nearly flat ; pectus and postpectus black ; feet piceous ; thighs testaceous at base ; venter black.

Closely approximated to *cupripennis*, but may be distinguished by the color of the under part of the body, base of the thighs, and elytra. The specimen I bought several years ago in New York.

[A *Platynus* afterwards described as *Agonum femoratum* Dej.—LEC.]

31. F. CINCTICOLLIS.—Piceous-black, beneath somewhat paler ; thorax margined ; elytral striæ impunctured.

Length nine-twentieths of an inch.

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Body black tinged with piceous, impunctured, beneath piceous; antennæ and palpi rufous; thorax narrower than the elytra, contracted behind, margined, margin rufous, somewhat recurved, edge excurved, near the posterior angles, which are obtuse; [53] elytra, striæ impunctured, acute, seventh one obsolete, interstitial lines slightly convex, third with two or three punctures; pectus and postpectus impunctured; feet piceous.

[A *Platynus* afterwards described as follows: *Platynus blandus* Germ., *Anchomenus corvinus* Dej., *A. deplanatus* Chaud., *A. marginalis* Hald.—LEC.]

32. F. DECORA.—Head deep green; thorax rufous; elytra dark cupreous.

Length seven twentieths of an inch.

Head deep green, purplish at base; antennæ and palpi rufous, dusky at tip; labrum and nasus purplish; thorax pale rufous, narrower than the elytra, broadest before the middle, a little contracted behind, hind angles obtuse, dorsal line slightly impressed, basal ones distinct; elytra, disk obscure cupreous to the eighth stria, margin green, interstitial lines somewhat convex, striæ impunctured; pectus pale rufous; postpectus black slightly purpureous, impunctured; feet testaceous; abdomen black, piceous behind.

33. F. DECENTIS [DECENS].—Black, depressed; third interstitial line tripunctate; thorax each side at base depressed and punctured; feet black.

Length eleven-twentieths of an inch.

Carabus gagathes Melsh. Catal.

Body black, depressed, glabrous; antennæ piceous-black; palpi dark piceous; thorax narrower than the elytra, slightly contracted behind, margin somewhat depressed behind, edge recurved, posterior edge very slightly excurved, posterior angles not rounded, dorsal line indented, anterior transverse line angularly and deeply indented, base each side excavated and confluent punctured. Elytra, striæ with transverse, numerous, lineolar punctures, interstitial lines convex, the third one with three remote, [54] lateral punctures, of which one is obsolete and placed near the base on the exterior side, one near the middle on the anterior side, and one near the tip; feet black; tarsi piceous; postpectus 1823.]

with a few punctures at base each side before the intermediate feet.

This species occurs not unfrequently. As Panzer has given the name *gagates* to a German insect which is distinct from this species, I have of course adopted a new one.

[A *Platynus* afterwards described as *Anchomenus gagates* Dej. and *A. coracinus* Lec.—LEC.]

34. F. *EXTENSICOLLIS*.—Head and thorax greenish; elytra green or purplish, beneath piceous-black; feet testaceous.

Length seven-twentieths of an inch.

Carabus extensicollis Melsh. Catal.

Head dusky green; antennæ and palpi rufous; labrum truncate; thorax narrower than the elytra, longitudinal, immargined, blackish-purple or greenish, gradually contracted behind, slightly excurved at the hind angles, base somewhat scabrous, basal lines dilated, concave, dorsal line distinct; scutel blackish-purple; elytra green or purple, striæ impunctured, interstitial lines convex, third one with four or five obsolete remote punctures; feet testaceous.

[Also a *Platynus*.—LEC.]

35. H. *OCHROPEZA*.—Blackish; thorax rounded behind; elytra with perlaceous reflections; feet testaceous.

Length one-fourth of an inch.

Carabus ochropezus Melsh. Catal.

Body glabrous, blackish, beneath piceous; antennæ brown; base and palpi rufous; thorax somewhat rounded, posterior angles very obtusely [55] rounded, dorsal line obsolete, basal lines excavated, base with numerous small punctures, edge dull rufous; elytra dark brown or blackish, with obsolete perlaceous reflections, striæ impunctured, interstitial lines depressed, sutural edge and deflected margin rufous or piceous; pectus and postpectus impunctured; feet testaceous.

Var. a. Elytra blackish-testaceous, almost destitute of the perlaceous reflections.

[Belongs to *Stenolophus*.—LEC.]

36. F. *LUCUBLANDA*.—Green or reddish-purple, polished, all beneath black; head and thorax impunctured, margin of the thorax depressed.

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Length eleven-twentieths of an inch nearly.

Carabus lucublandus Melsh. Catal.

Body glabrous, green, polished, beneath black; head impunctured; antennæ and palpi brown rufous at base, three basal joints of the former with a dusky carina; thorax impunctured, widest in the middle, a very little narrowed behind by a regularly curved edge, base nearly as broad as the elytra, basal angles rectangular, obtuse, lateral margin very distinctly and abruptly depressed, dorsal line acute, lateral ones, two on each side, indented; elytra green or reddish-purple, margin purplish-opake, interstitial lines convex, impunctured, the third with two or three remote punctures, striæ purplish within, impunctured; feet blackish-piceous or rufous.

Agreeably to M. Latreille's definition of the *Pœcilus* of Bonelli, this insect probably belongs to that genus: the carina of the antennæ is not confined to the third joint, but is extended to the second and first, and is very definite and striking; but the character attributed to that genus of "thorax [56] narrowed behind" is not sufficiently obvious in our insect. Wings perfect. The name *Pœcilia* designates a genus in ichthyology.

37. F. CHALCITES.—Green, polished, beneath black; feet black; head and thorax impunctured, margin of the thorax not depressed.

Length half an inch.

Carabus chalcites Melsh. Catal.

Body glabrous, green, polished, beneath black; head impunctured; antennæ brown, rufous at base, third joint with a blackish carina; labrum black: palpi piceous; thorax impunctured, not contracted behind, dorsal line distinct, base as broad as the elytra, basal lines two each side, margin not depressed, basal angles rectangular, acute; scutel green or cupreous; elytra polished, green, slightly tinted with cupreous, margin opake, interstitial lines convex, impunctured, striæ within black and with indented lines on each side; feet black; tibiæ and tarsi deep piceous.

Common. Brought also from the Missouri by Mr. Nuttall. This species belongs to the genus *Pœcilus* of Bonelli. It seems to resemble the *Harpalus viridi-æneus* of Palisot, but the thorax 1823.]

is less contracted at base, has four basal lines, and the feet are blackish.

[Afterwards named *P. Sayi* by Brullé, in consequence of Germar also describing a *Pæcilus chalcites*, but the name of Say antedates the latter by two years, as will be seen by the note on p. 435.—LEC.]

38. *F. CAUDICALIS*.—Winged; black; joints of the antennæ attenuated at their bases; thorax with the exterior edge excurved at base; elytra with slightly punctured striæ.

Length less than half an inch.

Body black, glabrous, polished; antennæ and palpi piceous; thorax contracted behind, lateral edge excurved near the [57] basal angles, dorsal line very distinct, continued to the base with a much shorter one at the lateral angles, space of the basal angles depressed and punctured, basal lines distinct, not attaining the basal edge; elytra, striæ impressed, slightly punctured, interstitial lines convex; pectus and postpectus each side punctured; feet dark piceous.

Somewhat allied to *F. adoxa*, but is winged, the antennæ are far less robust, the thorax is smaller, punctured at the basal angles, and slightly punctured in the striæ of the elytra.

[Afterwards described as *Omascus nigrita* Kirby; I consider *Feronia luctuosa* Dej., as the same, but Baron Chaudair informs me that he refers that name to the species described by me as *Pterostichus abjectus*. Dr. Harris kindly communicated to me specimens of the present species which have been compared with Say's type.—LEC.]

39. *F. INTERSTITIALIS*.—Rufous; elytra brownish, punctured, with iridescent reflections; posterior thoracic angles rounded.

Length full seven-twentieths of an inch.

Head rufous, black at tip; thorax rufous, transverse, quadrate, widest in the middle, edge curving equally, base depressed each side and with numerous punctures, anterior margin punctured, and a few remote punctures on the disk, dorsal line impressed, posterior angles obtusely rounded; elytra blackish-brown with iridescent reflections, striæ profound, interstitial lines convex, conspicuously and densely punctured, edge rufous; pectus pale rufous; feet rufo-testaceous; postpectus black; venter rufous.

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It was brought from Missouri by Mr. Nuttall, and is very rare in Pennsylvania.

[Belongs to *Amphasia* Newman, and was described by him as *A. fulvicollis*; it is also the *Harpalus obscuripennis* Dej.—LEC.]

40. F. OBSOLETA.—Totally deep black, immaculate, impunctured, glabrous.

Length one-fourth of an inch.

Body black, glabrous, impunctured; antennæ at base deep blackish-piceous; thorax narrower than the elytra, rounded, rather wider before [58] the middle, hind angles slightly projecting, the edge not excurved, base impunctured, dorsal line obsolete, basal line wanting; elytra, striæ obsolete or slightly impressed, impunctured; feet black-piceous; tibiæ rather lighter.

Seems to belong to the genus *Argutor*.

[A *Platynus*, afterwards described as *Agonum luctuosum* Dej.—LEC.]

41. F. PUNCTIFORMIS.—Black; thorax rounded behind, basal lines punctiform; elytral striæ punctured.

Length seven-twentieths of an inch.

Body black, glabrous; antennæ brown, piceous at base; palpi blackish; thorax, lateral curve regularly rounded, posterior angles very obtusely rounded, dorsal line obsolete, basal lines each in the form of a dilated puncture, base impunctured; elytra, striæ slightly punctured, interstitial lines depressed, third one with three remote punctures; pectus and postpectus impunctured; feet black; tibiæ and tarsi blackish-piceous.

Probably referable to the genus *Argutor*.

[Also a *Platynus*, and subsequently described as *Agonum rufipes* Dej., and *A. foveicollis* Chaud.—LEC.]

42. F. RECTA.—Piceous-black; antennæ, palpi, and feet rufous; thoracic impressed lines very distinct, posterior angles rounded.

Length rather less than three-fifths of an inch.

Body piceous-black, glabrous, beneath rather paler; antennæ brownish, base and palpi rufous; labrum piceous; thorax as broad as the elytra, edge regularly curved, posterior angles abruptly rounded, base impunctured, dorsal line very distinct, basal

lines longitudinally rectilinear, profoundly indented; elytra, striæ punctured, interstitial lines convex, in some lights a faint perlaceous gloss; pectus and postpectus impunctured; feet rufous.

Resembles *Harpalus ochropezus*, but is decidedly not of [59] that genus. It corresponds with the genus *Argutor* of Bonelli.

[Belongs to *Loxandrus* Lec., Journ. Acad. Nat. Sci. Phil., 2d ser. 2, 250; afterwards described as *Feronia lucidula* Dej., *Pogonus rectus* Say, and *Megalostylus laticollis* Chaud.—LEC.]

43. F. HYPOLITHOS.—Apterous, black, glabrous; feet rufous; striæ of the elytra punctured.

Length more than eleven-twentieths of an inch.

Antennæ dark piceous; palpi rufo-piceous; thorax narrowed behind, dorsal line deeply impressed, surface obsoletely transversely wrinkled, basal lines dilated, distinctly indented, angles obtusely rounded, lateral edge regularly arquated; elytra, striæ not deeply impressed, irregularly punctured; thighs and coxæ rufous; tibiæ and tarsi dark rufous.

This species seems to belong to the genus *Pterostichus* of Bonelli, and it may be distinguished from those which we have mentioned to be referable to that genus by the color of its feet.

[A *Platynus* afterwards described as *P. erythropus* Dej.—LEC.]

ABAX Bonell.

Anterior tibiæ emarginate; antennæ moniliform; elytra entire, united; wings none; labium with the intermediate tooth obtuse or truncated; thorax large, transversely quadrate, basal angles each with two abbreviated striæ; anterior tarsi of the male with three dilated joints.

A. CORACINUS.—Black, beneath piceous-black; elytra striate, a line of marginal ocellate punctures.

Length three-fifths of an inch.

Carabus coracinus Melsh. Catal.

Body beneath piceous-black; head black; a deeply impressed, acute, transverse line between the bases of the antennæ, equally distinct with the [60] articulation of the labrum; eyes prominent; labrum deep piceous; antennæ hairy, brown, piceous and glabrous at base, somewhat shorter than the thorax; thorax black, somewhat transverse-quadrate, anterior and posterior

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diameters equal, anterior angles rounded, little prominent, posterior ones rectangular, attaining the outer humeral angles, lateral edge obscure piceous, margin obsoletely purple, a dorsal impressed line and basal abbreviated one each side; elytra blackish faintly tinged with reddish-purple, striated, striæ acute, minutely punctured, a marginal line of ocellate punctures, which are more distant in the middle; epipleura reddish-purple.

[Afterwards described as *Myas cyanescens* Dej.—LEC.]

EPOMIS Bonell. Latr.

Anterior tibiæ emarginate; two anterior tarsi dilated in the male, and furnished beneath with dense, granuliform papillæ; antennæ filiform; labrum entire; palpi with the terminal joint dilated, obtriangular.

E. TOMENTOSUS.—Dusky cupreous opaque; elytra and feet black.

Length three-fifths of an inch.

Carabus tomentosus Melsh. Catal.

Head impunctured, dark cupreous, antennæ black, two basal joints rufous; labrum piceous; palpi black; thorax cupreous, with numerous, green, confluent punctures, as broad as the elytra at base, and gradually contracting by a curved line to the head; elytra greenish-black, striate, striæ distinctly punctured; pectus and postpectus black, punctured; abdomen black.

Not uncommon in Pennsylvania. A specimen was brought [61] from the Missouri, by Mr. Nuttall, which varies in being entirely green above.

[This is the type of *Eurydactylus* Ferté, which, however, is not to be separated from *Chlænius*; the species was subsequently described as *Amara luctuosa* Germ.—LEC.]

CHLÆNIUS Bonel. Latr.

Anterior tibiæ emarginate; two anterior tarsi dilated in the male, and furnished beneath with dense, granuliform papillæ; antennæ filiform, joints elongated; labrum entire; palpi filiform.

1. C. SERICEUS.—Green, beneath black; antennæ and feet rufous; head punctured.

Length about three-fifths of an inch.

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Carabus sericeus, alatus, ater, capite, thorace, et elytris viridi-nitentibus, antennis pedibusque rufis. Forst. Nov. Sp. Ins. Cent. Oliv. Encey. Meth.

Carabus Fosteri Turt. Linn. 2, p. 464.

Carabus sericeus Melsh. Catal.

Body green, beneath black, with very short numerous hairs; head polished, punctured; antennæ and palpi pale rufous, the former paler at base; labrum rufous; mandibles ferruginous at base; thorax distinctly transverse, densely punctured, polished, dilated in the middle, posterior lateral edge rectilinear or slightly excurved, dorsal and basal lines very distinct, base rather narrower than the elytra; elytra not wider behind the middle, with numerous minute punctures, striate; striæ acute, minutely punctured, interstitial lines flat; feet rufous; pectus and postpectus punctured; abdomen with minute punctures.

Var. α . Elytra purplish.

Very closely resembles the next, but differs in the less elongated form of the thorax. Common in the Middle States, and was brought from Missouri by Mr. Nuttall. [62]

2. *C. ÆSTIVUS*.—Green-cupreous; elytra purple-black; antennæ and feet rufous; head punctured.

Length seven-tenths of an inch.

Carabus amethystinus Melsh. Catal.

Body greenish-cupreous, beneath black, with very short numerous hairs; head polished, punctured; antennæ and palpi rufous, shaded towards the tips; labrum ferruginous; mandibles blackish; thorax as long or rather longer than broad, dilated in the middle, posterior lateral edge rectilinear, or slightly excurved, densely punctured, polished, dorsal basal lines very distinct, base narrower than the elytra; elytra dark purple, opaque, perceptibly a little dilated behind the middle, with very minute, numerous punctures, striate, striæ a little obtuse, punctured, interstitial lines depressed, a little convex; pectus and postpectus punctured, feet rufous; abdomen minutely punctured.

This cannot be *amethystinus* of authors, if the figure of that insect by Olivier be correct.

[Afterwards described as *C. cobaltinus* Dej., and a variety as *C. congener* Lec.—LEC.]

3. *C. LITHOPHILUS*.—Green, beneath black; head punctured; feet testaceous; antennæ fuscous, paler at base.

Length less than seven-twentieths of an inch.

Body green, with very short, numerous hairs, beneath black; head punctured; front smooth; antennæ fuscous, base and palpi testaceous, the latter dusky at tip; labrum and mandibles piceous-black; thorax wider somewhat behind the middle, transverse-quadrate, lateral edge regularly and equably curved, posterior angles slightly rounded, surface densely punctured, punctures large, dorsal line acute, posterior ones dilated; elytra villous, minutely punctured, striæ punctured, interstitial lines flat [63] pectus and postpectus with dilated glabrous punctures; feet rufo-testaceous; venter with villous punctures.

Closely allied to *sericeus* and *æstivus*, but is much smaller.

[Subsequently described as *C. viridanus* Dej.—LEC.]

4. *C. EMARGINATUS*.—Green-cupreous; elytra purple-black; antennæ and feet rufous; head punctured; labrum deeply emarginated.

Length eleven-twentieths of an inch.

Body green, tinged with cupreous, with very short numerous hairs; head polished, punctured; antennæ and palpi rufous; labrum profoundly and obtusely emarginate, ferruginous; thorax transverse-quadrate, dilated in the middle, polished, densely punctured, lateral edge curved regularly to the hind angles, dorsal and basal lines very distinct, base nearly equal to the base of the elytra; elytra dark purple, opaque, with numerous very minute punctures, striæ punctured, interstitial lines depressed; pectus and postpectus punctured; feet rufous; abdomen minutely punctured.

Very like *C. æstivus*, but is readily distinguished by the curvature of the thoracic edge being regularly continued to the posterior angles, and by the more deeply emarginated labrum. Not uncommon.

[Belongs to *Anomoglossus* Chaud., a genus which differs from *Chlænius* by the absence of the mentum tooth.—LEC.]

5. *C. PUSILLUS*.—Green, polished; elytra purple; antennæ and feet rufous; head punctured; labrum deeply emarginate.

1823.]

Length less than seven-twentieths of an inch.

Body with very short numerous hairs; head green, polished, punctured; antennæ and palpi rufous, brownish towards the tips; labrum piceous, deeply emarginate; thorax with large punctures, a little contracted behind, posterior lateral edge somewhat excurved, dorsal line not deeply depressed, basal ones indented; elytra purple, interstitial lines convex, with distinct punctures [64] striæ with the punctures not larger than those of the interstitial lines; feet pale rufous.

Not a common species. Known by its small size.

[Also belongs to *Anomoglossus*; it was afterwards described by Dejean as *C. elegantulus*.—LEC.]

6. *C. LATICOLLIS*.—Dark violaceous; elytra black; antennæ and feet rufous; head punctured; thorax at base as broad as the elytra.

Length rather more than three-fifths of an inch.

Body hairy, deep violaceous glossed with green, beneath black; head punctured; antennæ reddish-brown, base and palpi rufous; labrum truncate, ferruginous; thorax densely punctured, transverse-quadrate, narrowed before, base not contracted, as broad as the elytra; elytra with numerous minute punctures, striæ with small punctures, interstitial spaces perfectly flat; feet rufous; abdomen with small punctures.

Approximates closely to *æstivus* and *sericeus*, but differs in the form of the thorax, which is proportionally larger.

Brought from the Missouri by Mr. Nuttall.

7. *C. IMPUNCTIFRONS*.—Dark green; elytra black; antennæ and feet rufous; head impunctured; thorax at base as broad as the elytra.

Length three-fifths of an inch.

Body dark green, beneath black; elytra black; head green, polished, impunctured; labrum emarginate, ferruginous; thorax obscure green, transverse-quadrate, punctured, punctures minute, base as broad as the elytra; elytra black, punctures numerous, minute, striæ with distinct punctures; feet rufous.

Distinguished from all the preceding ones by the glabrous front, and small size of the thoracic punctures. Rare. [65]

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8. *C. NEMORALIS*.—Cupreous-green, beneath black; elytra purple-black; antennæ and feet rufous; head impunctured; thorax at base narrower than the elytra.

Length half an inch.

Carabus amethystinus Melsh. Catal.

Body with very short, numerous hairs, cupreous-green; elytra dark purple, beneath black; head glabrous, polished; labrum ferruginous, truncate; antennæ and palpi rufous; thorax broadest in the middle, posterior lateral edge slightly excurved, base narrower than the elytra, punctures numerous, small, impressed lines distinct; scutel not darker than the elytra; elytra deep purple, obscure, with numerous minute punctures and punctured striæ, interstitial lines depressed; sternum slightly tinged with green; feet rufous.

Is at once distinguished from *æstivus* by the impressed front, and from *impunctifrons* by having the thorax narrowed behind. Common in Pennsylvania. I found it also in Georgia and Florida.

3. *C. SOLITARIUS*.—Green, polished, beneath piceous; feet pale; head impunctured; thorax at base narrower than the elytra, subcordate.

Length nearly eleven-twentieths of an inch.

Body green, polished, beneath piceous-black; head impunctured; antennæ brownish, paler at base; labrum truncate, pale ferruginous; thorax dilated before the middle, contracted behind, dorsal lines and base punctured, disk each side impunctured; scutel purplish; elytra green, polished, striæ indented, obtuse, punctures distinct, intervals not equal to their length and becoming obsolete towards the tip, interstitial lines convex, with very distinct punctures; [66] feet pale, joints somewhat darker; tail pale.

Differs from all the preceding ones in having the lines intervening between the striæ convex. It was taken on the Missouri by Mr. Nuttall.

10. *C. PENNSYLVANICUS*.—Green, polished, beneath piceous; elytra blackish; feet rufous; head impunctured; interstitial lines of the elytra somewhat convex.

Length not quite half an inch.

1823.]

Carabus pensylvanicus Melsh. Catal.

Body green, polished; elytra dark purplish, with an obscure greenish margin; beneath deep piceous; head impunctured; antennæ brown, rufous at base; labrum ferruginous, slightly emarginate; thorax dilated in the middle, punctured, somewhat contracted behind, edge slightly excurved near the base; elytra with numerous minute punctures, striæ with approximate punctures which are obsolete towards the tip, interstitial lines convex; feet rufous.

Resembles *memoralis*, but is known by the convex interstitial lines and less profoundly emarginated labrum.[?]

Not common.

[The description is hardly sufficiently definite to enable this species to be fully determined. I have, however, applied the name to the one afterwards described as *C. pubescens* Harris, and *C. vicinus* Dej.—LEC.]

DICÆLUS* Bonel. Latr.

Anterior tibiæ emarginate; two anterior tarsi dilated in the male and furnished beneath with dense, granuliform papillæ; antennæ filiform; labrum profoundly emarginate. [67]

1. D. PURPURATUS.—Blackish; thorax margined with purple; elytra purplish.

Length nine-tenths to eleven-tenths of an inch.

Carabus purpuratus Melsh. Catal.

Dicælus purpuratus, thorace transverse, purpureo irroratus, elytris sulcatis, corpore abbreviato, dilatato. Bonel. Obs. Entom., Vide Mem. de l'Acad. Imper. de Turin.

Body beneath black, impunctured; head black; antennæ with ferruginous hairs towards the tip; thorax black, tinged with purple, margin purple or purple-blue, depressed lateral edge re-

* Since the prefatory observations to this essay were printed, I have had the good fortune to find, in the library of this Society, the fifth volume of the Class of Physical and Mathematical Sciences of the Memoirs of the Imperial Academy of Turin. This volume is particularly interesting to me at this time, as it contains a portion of the essay on the Linnæan *Carabii* by M. Bonelli, entitled "Observations Entomologiques." From this essay I have made a few quotations in this genus.

flected; elytra blackish glossed with purple, striæ profound, impunctured, interstitial lines very convex; beneath.

2. *D. VIOLACEUS*. [Ante, 1, 51.] [68]

3. *D. DILATATUS*. [Ante, 1, 53.]

4. *D. ELONGATUS*.—Black, impunctured, immaculate, striæ impunctured.

Length three-fifths of an inch.

Carabus furrus Melsh. Catal.

Dicelus elongatus, thorace subquadrato, niger, elytris sulcatis, corpore elongato. Bonel. Obs. entom.

Antennæ gradually becoming ferruginous towards the tip; thorax of nearly equal diameters, contracted before, margins depressed, lateral edge slightly reflected, dorsal line continued to the base, basal depression not distinctly sinuated before, basal lines distinct; elytra black, striæ profound, impunctured, interstitial lines very convex; humeral elevated line elongated.

5. *D. SCULPTILIS*. [Ante, 1, 53.] [69]

6. *D. SPLENDIDUS*. [Ante, 1, 52.]

PANAGÆUS Latr.

Anterior tibiæ emarginate; elytra entire; exterior maxillary and labial palpi with the terminal joint subsecuriform; [mentum] tridentate, middle tooth short, obtuse; tongue short; head small; labium much wider at base; neck distinct, abrupt; thorax orbicular; abdomen subquadrate; antennæ filiform.

1. *P. CRUCIGERUS*.—Black, hirsute; elytra with four large fulvous spots.

Length nine-twentieths of an inch.

Body black, opaque, punctured; head with obsolete punctures; antennæ with a few rufous hairs towards the tip; thorax transversely suboval, widest behind the middle, punctures numerous, dilated, and distinct, edge abruptly excurved near the posterior angles, which are small, prominent, acute; elytra with obtuse striæ, punctures dilated, each elytrum with two large fulvous spots, of which one is near the [70] base, rounded, attaining the margin, and the other near the tip, orbicular and distinct; pectus, postpectus, and abdomen each side at base with dilated punctures.

1823.]

Closely resembles the *Crux major* of Europe, but is a much larger insect. I found a specimen on the sea beach of Senipuxten, eastern shore of Maryland, which was cast up alive by the waves, the last of September.

2. *P. FASCIATUS*.—Ferruginous, hirsute, punctured; elytra fulvous, with a black band and tip.

Length seven-twentieths of an inch.

Head punctured; nasus impunctured, glabrous; antennæ fuscous; palpi black; thorax widest behind the middle, convex, punctures numerous, large, lateral edge deeply and widely excavated behind, posterior angles prominent, distinct; elytra fulvous, with a common black band rather behind the middle, contracted on the disk, and dilated at the suture and margin, deflected base and tip black, striæ obtuse, punctures large, distinct, transverse; epipleura with a distinct, impressed, punctured stria; pectus and postpectus with dilated punctures; feet black; venter deep piceous, punctured each side at base.

Very distinct from the preceding species, and is a rare insect.

CYCHRUS Fabr.

Anterior tibiæ entire; elytra entire, embracing the abdomen; external maxillary and labial palpi dilated, compressed, subsecuriform or obconic; mandibles elongated, bidentate near the tip; labium profoundly emarginate, not wider at base than at tip; labrum elongated, very profoundly emarginate; tongue very small; abdomen robust, convex. [71]

1. *C. ELEVATUS*.—[Ante 1, 103.]

2. *C. UNICOLOR*.—[Ante 1, 99.] [72]

3. *C. STENOSTOMUS*.—[Ante 1, 101.] [73]

4. *C. BILOBUS*.—[Ante 1, 101.]

CALOSOMA Weber.

Anterior tibiæ entire; elytra entire; exterior maxillary and labial palpi with the terminal joint hardly larger than the preceding joint; mandibles unarmed, robust; labrum transverse, bilobate; labium profoundly emarginate and with a short acute tooth in the middle; antennæ, second joint one-third as long as the [Vol. II.]

following one ; thorax transversely suboval ; abdomen subquadrate.

1. *C. SCRUTATOR*.—Violaceous ; thorax with a golden margin ; elytra green margined with reddish-cupreous.

Length from twenty-three-twentieths to five-fourths of an inch. [74]

Carabus scrutator Oliv. Ent. No. 35, pl. 3, 32, a. b.

Calosoma scrutator Fabr. Syst. Eleut. pars 2, p. 213. Melsh. Catal. and Leach Zool. Misc. Vol. 2, p. 93, pl. 93.

Body beneath green varied with golden cupreous ; head impunctured, black, with violaceous reflections, orbits above golden ; antennæ with ferruginous hair towards the tip ; beneath green ; tooth of the labium very short, hardly prominent ; thorax impunctured, blackish-violaceous, with an uninterrupted golden margin, dorsal line abbreviated, obsolete, basal lines none, basal edge subrectilinear, the lateral angles not extending backwards ; elytra bright green with a very slight cupreous reflection ; striæ reticulated by much smaller transverse lines which are more deeply impressed in the striæ so as to resembles transverse punctures, striæ fifteen, transverse lines very numerous, fourth, eighth, and twelfth interstitial lines each with several distant impressed punctures, exterior margin reddish-cupreous ; feet violaceous : venter green, incisures each with a golden cupreous base and lateral spot.

Var. a. Head distinctly punctured, disk of the thorax green with a very slight violaceous tint ; length nine-tenths of an inch.

This species makes a very near approach to the *sycophanta* of Europe ; but, as Dr. Leach observes, it differs from that insect in color, in being less convex, and in having a shorter thorax.

2. *C. CALIDUM*.—Black ; elytral striæ reticulated, equal, with a triple row of indented gold dots.

Length from nine-tenths to nine-eighths of an inch.

C. calidum Fabr. Syst. Eleut.

Carabus calidus Melsh. Catal.

Head black, with crowded minute confluent punctures ; antennæ brown towards the tip ; [75] thorax black, with crowded, minute, confluent punctures, posterior lateral margin reflected, posterior angles rounded and extending backwards beyond the 1823.]

basal line; elytra black, striæ reticulated by smaller transverse lines, which, near the base, are much more deeply impressed, so as almost to granulate the interstitial lines; striæ fifteen, transverse lines very numerous, fourth, eighth, and twelfth interstitial lines with several equal, equidistant, dilated orbicular, impressed, golden dots, and a solitary one near the scutel, exterior marginal groove greenish; pectus each side with minute crowded punctures; sternum impunctured; postpectus each side, and each side of the abdomen with rather larger punctures.

I was formerly misled respecting this insect by that portion of the specific description of Fabricius which ascribes to it an apterous character. In this error I was corrected by Professor Wiedemann of Kiel, who assures me that Fabricius was mistaken, and that his species is certainly winged.

CARABUS Lin. Latr.

Anterior tibiæ entire; elytra entire; exterior maxillary and labial palpi subtriangular, dilated; mandibles not elongated, robust; labrum short, transverse, bilobate; labium profoundly emarginate and with a central tooth; antennæ, second joint half as long as the next; thorax subcordate, emarginate behind; abdomen oval.

1. *C. SYLVOSUS*.—Apterous, black; thorax and elytra margined with violaceous, the latter with a triple series of excavated punctures.

Length rather more than an inch.

Carabus sylvosus Melsh. Catal.

Body black, glabrous; [76] antennæ brownish towards the tips; palpi, terminal joint dilated; thorax margined, margin violaceous, gradually more recurved to the posterior angles, very obtusely rounded, slightly extending backwards beyond the basal line, base depressed and with the lateral margin somewhat scabrous, dorsal line obsolete, basal lines wanting; elytra black, margin violaceous, disk nearly smooth with about thirty striæ of minute impressed punctures and three distant series of remote excavated ones.

All the species of this genus that I have seen, as well as those of *Procrustes*, *Calosoma*, &c., have the tibiæ of the second pair

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of feet of the male densely ciliated near the external tip, with fulvous hair.

2. *C. INTERRUPTUS*.—Apterous, blackish; elytra slightly bronzed; fourth, eighth, and twelfth interstitial lines interrupted; striæ concave with impressed punctures and elevated ones.

Length nine-tenths of an inch.

Carabus granulatus Melsh. Catal.

Head black; antennæ and palpi deep piceous, the former fuscous towards the tip; thorax black, with numerous, minute, indented punctures, which are obsolete on the disk, dorsal and basal lines conspicuous, margin towards the posterior angles slightly reflected, posterior angles rounded, prominent behind the basal line; elytra black-bronzed, striæ with a somewhat lateral series of punctures and numerous elevated ones, interstitial lines fifteen, two of which are more conspicuous, fourth, eighth, and twelfth interrupted, interrupted lines acute behind, a submarginal series of elevated punctures; feet black; venter deep piceous or black.

The impressed punctures of the intervening lines of the [77] elytra are sometimes obsolete or wanting. This species does not agree with the description of *C. granulatus* either as respects the color of the antennæ or that of the body. And although it corresponds with the description of *tædatus* better than any other insect I have yet seen, yet the differences are so striking as to forbid its being referred to that species. This will be placed beyond a doubt by comparing Olivier's description with the above, and particularly that portion of it relating to the elytra, of which he says that they are "presque lisses ou sans stries bien marquées, avec trois rangées des points enfoncés."

[Previously described as *C. vinctus* Weber.—LEC.]

3. *C. LIMBATUS*.—Apterous, black; margin of the elytra purplish; fourth, eighth, and twelfth interstitial lines interrupted.

Length four-fifths of an inch.

Body black, glabrous; head obsoletely corrugated above the eyes; antennæ fuscous at tip; thorax impunctured, rugulous at base; elytra margined with purple, striæ with transverse linear punctures, interstitial lines elevated, equal, distinct, marginal

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ones and tips slightly reticulated, fourth, eighth, and twelfth interrupted; pectus impunctured; postpectus each side at base obsoletely punctured; feet black; venter each side obsoletely punctured.

This insect very much resembles *C. interruptus*, but differs in the form of the punctures of the elytra and in having this part margined with purple; the form also is less elongated.

Taken by Mr. J. Gilliams in Maryland.

[Afterwards described as *C. Goryi* Dej.—LEC.]

4. *C. SERRATUS*.—Apterous, black; thorax and elytra margined with obscure violaceous, interstitial lines reticulated, three interrupted ones.

Length more than seven-tenths of an inch.

[78]

Carabus catenatus Melsh. Catal.

Body black, glabrous; head smooth, impunctured; antennæ fuscous beyond the middle; thorax, exterior margin obscure violaceous, and with the base somewhat scabrous, disk impunctured, dorsal and basal lines obsolete, the latter oblique; elytra margined with obscure violaceous, edge near the base slightly serrate, interstitial lines about fifteen, obtuse and smooth, connected by numerous transverse septæ, which are equally prominent and obtuse, not continued, fourth, eighth, and twelfth line dilated, interrupted, obtuse. Postpectus and venter each side punctured.

The name *catenatus* has been applied by Panzer to a species inhabiting Carolina.

[Subsequently described as *C. lineatopunctatus* Dej.—LEC.]

NEBRIA Latr.

Anterior tibiæ entire; elytra entire; exterior maxillary and labial palpi with the last joint elongated, subcylindrical, the latter of equal joints; tongue not longer than the labrum, and not tricuspidate at tip; labrum entire; labium profoundly emarginate, and with an emarginate, obtuse, central tooth; mandibles not dilated at base; thorax truncate, cordate; abdomen oval, depressed; antennæ filiform.

N. PALLIPES.—Black; thorax dilated, very short: feet testaceous.

Length nearly half an inch.

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Body black, glabrous, depressed; head with two obsolete piceous spots on the vertex; mouth piceous; palpi paler at base; antennæ rufous, base paler; labium elongated, nearly as long as the labrum, bisetous near the tip; thorax much abbreviated, as broad as the elytra, much contracted behind, exterior and posterior margins depressed, [79] lateral edge reflected, dorsal line conspicuous, posterior angles acute; elytra profoundly striated, striæ punctured on the sides, interstitial lines convex; pectus and postpectus with obsolete dilated punctures; feet testaceous: venter piceous towards the tip, impunctured.

In this species the emargina of the anterior tibia is very small and placed very near to the tip, so as to be undiscoverable but by particular examination. Judging from the generic definition which authors have given, this species must differ from the other species of this genus in the form of the labium, which is elongated, acute, as in *Pogonophorus*, and has on each side near the tip a long hair or bristle, instead of spines, as in the latter genus; it does not therefore agree with the character given of the labium of *Nebria*,—"labium subquadrate," "labium short," "nearly quadrate," &c., nor yet with that of *Pogonophorus*, of which this part is tricuspidate. But as it will not agree with any other than the two genera above mentioned, and as it differs from the latter genus in not having the mandibles dilated at base, nor the maxillary palpi much elongated, I have thought proper to place it with the present genus, to which it seems to have the closest affinity.

OMOPHRON Latr.

Tongue very short; antennæ filiform; maxillæ ciliated on the exterior side; body short, nearly hemispherical; thorax trapezoidal, transverse, sinuated, or lobed behind; anterior pair of tibiæ slightly emarginate on the inner side.

O. LABIATUM.—Blackish; labrum, margin of the thorax and of the elytra whitish: antennæ, palpi, and feet testaceous.

Length one-fourth of an inch.

[80]

Scolytes labiatus niger, labio thoracis elytrorumque margine argenteis. Fabr. Syst. Eleut. 1, p. 248.

Head blackish, base punctured; eyes large; nasus triangular, 1823.]

piceous, with a yellow hind margin; antennæ and palpi testaceous; labrum white somewhat silvery; thorax black-brown, broad as the elytra at base, gradually narrowed before, basal line sinuated each side and angulated in the middle, punctures obsolete on the disk, dorsal line obsolete, basal lines none, lateral margin white somewhat silvery near the edge, edge black-brown; scutellum not perceptible; elytra black-brown, striæ thirteen, towards the tip and margin obsolete, punctures distant, impressed only on the lateral parietes of the striæ, interstitial lines convex, margin whitish somewhat silvery near the edge, dilated and undulated behind with several punctiform hyaline maculæ; pectus and postpectus punctured, piceous; feet testaceous; venter pale piceous impunctured.

This specimen I obtained near Great Egg Harbor, New Jersey, on the skirt of a forest.

ELAPHRUS Fabr.

Antennæ hardly longer than the head and thorax, somewhat more robust towards the tip; external maxillary and labial palpi with the ultimate joint subcylindrical, longer and larger than the preceding joint; labium profoundly emarginate; maxillæ hardly ciliated on their external side; thorax subcylindrical, somewhat dilated in the middle, unequal, longer than broad; anterior tibiæ emarginate on the inner side.

E. RIPARIUS?—Dark brownish-green, a little bronzed: elytra with dilated, orbicular, impressed spots, and three elevated studs each side of the suture.

Length more than three-tenths of an inch.

[81]

E. riparius Fabr.

Body dark brownish-green, opaque, beneath rather paler, polished, glabrous, punctures very numerous, crowded; head slightly corrugated between the eyes; antennæ and labrum blackish; mandibles green each side at base, piceous within near the tip; palpi above piceous, beneath paler; gula impunctured; thorax broadest rather before the middle, narrower than the elytra, a transversely indented curved line before the middle, and a longitudinal abbreviated one, lateral edge hardly prominent, slightly excurved behind, posterior angles inconspicuous, base not wider

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than the petiole; elytra equally punctured with about twenty large, dilated, orbicular, impressed, purplish spots, and two or three equidistant, elevated, elongate, subquadrate, impunctured, bronzed spots each side near the suture, the anterior one largest, a few obsolete elevated lines; postpectus green, tinged each side with cupreous; feet green; femora and tibiæ piceous at base; venter green, disk impunctured, segments brassy at tip.

[Afterwards named *E. ruscarius* Say, infra.—Lec.]

NOTIOPHILUS Dumeril.

Antennæ not longer than the head and thorax, rather more robust towards the tip; external maxillary and labial palpi with the terminal joint subcylindric, large, and longer than the preceding joint; labium profoundly emarginate; maxillæ hardly ciliated on their external side; thorax depressed, transverse, subquadrate; anterior tibia emarginate on their inner side.

N. SEMISTRIATUS.—Brownish bronze; front corrugated; elytra with punctured striæ and a longitudinal equal space near the suture.

Length rather more than one-fifth of an inch.

[82]

Elaphrus semistriatus Melsh. Catal.

Body brownish bronze, glabrous, immaculate, beneath blackish; head with six or eight frontal, longitudinal, elevated lines, abbreviated on the vertex; nasus with several elevated lines at tip, and a transverse interrupted one at base; labrum, a single impressed, longitudinal line; antennæ and palpi deep fuscous, paler at base; thorax as broad as the elytra, transverse quadrate, broadest before the middle, slightly contracted to the base, punctures numerous, approximated, obsolete each side of the disk, dorsal line impressed, punctured, basal lines indented, lateral edge slightly curved, posterior angles rectangular; scutel rounded at tip, impunctured; elytra, striæ obtuse with large punctures, interstitial lines hardly wider than the striæ, a dilated, smooth, polished, longitudinal, continued space separated from the suture by a series of impressed rounded punctures; pectus punctured; postpectus with a few punctures each side; feet black.

Var. *α*. Dark green; tibiæ piceous.

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Var. β . Feet rufous; thorax more contracted behind.

[Var. β was afterwards recognized as a distinct species, *N. porrectus* Say, infra.—LEC.]

BEMBIDIUM Latr.

External maxillary and labial palpi with the penultimate joint largest, dilated; terminal joint abruptly very slender and short; anterior tibiæ emarginate on the inner side.

1. *B. HONESTUM*.—Bronzed, beneath dark bluish-green; antennæ, palpi, and feet piceous; thorax much narrower than the elytra, basal line oblique each side.

Length one-fourth of an inch.

Tachys æreus Melsh. Catal.

Head black, very slightly bronzed; palpi piceous, penultimate joint of the exterior ones blackish; [83] thorax black, slightly bronzed, impunctured, narrower than the elytra and contracted a little towards the base, broadest rather before the middle, posterior angles acute, prominent, from tip to tip not equal to the diameter before the middle, dorsal lines distinct, basal lines abbreviated, indented, somewhat dilated, marginal groove uninterrupted at the hind angles, basal edge oblique each side; elytra bronzed, striæ impressed, not obsolete near the tip, punctures approximated, interstitial lines flat, third with two punctures on the outer edge, one near the middle, and the other behind; pectus and postpectus impunctured, deep bluish-green; feet piceous; trochanters and base of the thighs paler.

Panzer has applied the name which Mr. Melsheimer adopted to a different insect of this genus.

[This appears to be the species afterwards described as *B. antiquum* Dej.—LEC.]

2. *B. PUNCTATO-STRIATUM*.—Blackish, beneath dark green polished, thorax hardly narrower than the elytra, basal line oblique each side.

Length from one-fourth to nearly three-tenths of an inch.

Body all above black obsoletely bronzed, beneath deep green highly polished; antennæ fuscous, basal joint rufous; palpi rufous at base, darker towards the tip; thorax broadest in the middle, narrowed before, somewhat contracted before the poste-

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rior angles, breadth from tip to tip of the posterior angles equal to the breadth of the middle, basal edge oblique each side, dorsal line slightly impressed, basal lines indented, conspicuous; elytra, striæ impressed, obtuse, not obsolete near the tip, punctures rounded, conspicuous, interstitial lines slightly convex, third one with a dilated indentation near the middle, and another behind; humerus obtusely angled; feet dark rufous.

Var. *a*. Body above bright cupreous; impressed elytral spots green; thighs and tibiæ each at tip greenish. [84]

Very similar to the preceding species, but, independently of color, it may be readily distinguished from it by the much wider thorax and the impressed elytral spots.

[Afterwards described as *B. stigmaticum* Dej.; *B. sigillare* Say, *infra*, is probably the same species.—LEC.]

3. *B. LEVIGATUM*.—Above green, polished, beneath blackish; elytral striæ not impressed, punctured.

Length rather more than one-fourth of an inch.

Body all above green, polished, beneath blackish, polished; antennæ and palpi rufous; thorax impunctured, broadest in the middle, nearly equal to the base of the elytra, contracted behind, posterior angles rectangular, basal line nearly rectilinear, marginal groove interrupted at the posterior angles by an oblique acutely carinated line, dorsal line slightly impressed, basal ones profoundly indented; elytra destitute of impressed striæ, punctures rounded, somewhat dilated, obsolete behind the middle, interstitial lines flattened; feet dark rufous; venter slightly piceous on the disk.

This species was obtained in Missouri by Mr. Nuttall.

[Placed by me as the type of a different genus *Hydrum*, which I afterwards reunited with *Bembidium*.—LEC.]

4. *B. DORSALIS*.—Greenish polished, beneath blackish; elytra testaceous, with two obsolete undulated bands.

Length upwards of one-fifth of an inch.

Body beneath piceous-black, polished; head green somewhat brassy; front longitudinally convex in the middle; antennæ brown, testaceous towards the base; palpi testaceous, darker towards the tip; thorax green slightly tinged with cupreous, 1823.]

marginal groove interrupted at the posterior angles by an oblique carinated line, dorsal line obsolete, basal ones dilated, basal edge oblique each side: elytra whitish-testaceous, striæ punctured, profound, not obsolete near the tip, interstitial lines hardly convex, third with a transverse linear impression before and one behind the middle, area of the scutel greenish, two fuscous, obsolete, [85] undulated bands behind the middle, the posterior one less definite; feet whitish-testaceous.

Found in Missouri by Mr. Nuttall.

5. B. CONTRACTUM.—Blackish-brown, thorax much contracted behind, base hardly broader than the peduncle, rectilinear.

Length one-fifth of an inch.

Head black; antennæ brown, base rufous; labrum deep piceous; mandibles piceous before the tip; palpi piceous black; thorax black, slightly cupreous, widest rather before the middle, much contracted behind, lateral groove not dilated, posterior angles very small, base excepting the angles, hardly wider than the peduncle, basal line rectilinear; elytra blackish, or dark piceous, slightly glossed with cupreous, with a very indistinct paler posterior margin and tip, striæ impressed, obsolete at tip, lateral ones shortest, punctures very distinct, approximated, interstitial lines flat, third with a puncture before and one behind the middle; feet testaceous.

The pale hind margin and tip are usually obsolete, and often almost imperceptible; it varies in extending to the base, but is ordinarily in the form of a very indistinct, subterminal, marginal spot, and an apical larger one.

6. B. NIGER.—Purple-black; elytra bronzed, striæ obtuse, obsolete at tip; feet rufous.

Length more than three-twentieths of an inch.

Tachys niger Melsh. Catal.

Body beneath piceous-black; head blackish tinted with purple; antennæ fuscous; base and palpi rufous; thorax black, slightly purpurescent, broadest rather before [86] the middle, lateral edge slightly excurved near the posterior angles, basal edge slightly oblique each side; elytra dark bronzed, striæ obtuse, somewhat canaliculate, obsolete behind, punctures transverse, interstitial lines convex; feet rufous.

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At once distinguishable from the preceding species by its smaller size.

7. *B. OPPOSITUM*.—Black; elytra fuscous, each with two large remote whitish spots.

Length one-eighth of an inch.

Tachys 4-guttatus Melsh. Catal.

Head black; antennæ brown; base and palpi testaceous; thorax black, somewhat pedunculated, wider before the middle, much contracted behind, posterior angles salient, acute, basal edge oblique each side, and, excluding the angles, hardly wider than the peduncle; elytra fuscous or blackish, each with a large, whitish, longitudinally suboval spot attaining the humerus and exterior margin, distant from the suture, and one less than half as large, rounded, placed on the disk behind the middle, striæ obsolete, wanting behind, punctures of the striæ distinct; feet testaceous.

Subject to considerable varieties in size and in depth of coloring of the elytra. The term *4-guttatus* of Mr. Melsheimer is preoccupied.

[Identical with the European *B. 4-maculatum*.—LEC.]

8. *B. AFFINIS*.—Black; elytra each with two large, distant, obsolete, pale spots, and a smaller one on the humerus before.

Length one-eighth of an inch.

Thorax black, wider before the middle, much contracted behind, posterior angle salient, acute, basal edge oblique [87] each side, and, excluding the angles, hardly wider than the peduncle; elytra blackish, each with obsolete, marginal, pale spots, one placed before the middle not attaining the humerus, one smaller behind the middle attaining the margin, and one smallest before the humerus, striæ impressed, wanting at tip, punctures distinct; feet testaceous.

Very similar to the preceding, but may be distinguished by the larger anterior spot being placed considerably behind the humerus and by the more profoundly impressed striæ.

[Afterwards described by Dejean as *B. fallax* and *B. decipiens*.—LEC.]

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9. *B. INORNATUM*.—Black ; feet piceous ; elytral striæ obsolete, impunctured.

Length one-tenth of an inch.

Body deep black, polished ; antennæ brown ; base and palpi rufous ; thorax nearly as broad as the elytra, somewhat narrowed behind, lateral edge hardly excurved behind, posterior angles rectangular, basal edge rectilinear ; elytra black, dorsal striæ obsolete, obtuse, impunctured, lateral striæ wanting ; feet piceous.

Often under the bark of decaying trees.

[Belongs to *Tachys* and was afterwards described as *Tachyta picipes* Kirby.—LEC.]

10. *B. FLAVICAUDUS*.—Piceous ; elytra with obsolete, impunctured striæ and pale at tip.

Length three-fortieths of an inch.

Head blackish ; antennæ, labrum, and palpi pale rufous ; thorax piceous-black, transverse quadrate, broadest in the middle, not contracted behind, posterior angles rectangular, basal edge rectilinear ; elytra blackish, from near the middle to the tips yellowish white, striæ impunctured, wanting each side and at tip, interstitial lines convex ; feet pale rufous ; venter piceous at tip. [88]

Var. a. Entirely testaceous.

These I found very numerous under the bark of decaying trees.

[A species of *Tachys*.—LEC.]

11. *B. PROXIMUS*.—Head and thorax piceous ; elytra testaceous with a blackish common disk, striæ obsolete, impunctured.

Length rather more than one-tenth of an inch.

Head blackish piceous ; antennæ rufous ; base and palpi pale ; labrum rufous ; thorax piceous, transversely subquadrate, slightly contracted behind, posterior angles rectangular, base much broader than the pedicel, basal line slightly oblique each side, dorsal line distinct, basal ones indented ; elytra testaceous, a common black spot on the middle hardly attaining the margin, region of the scutel dusky, striæ very obtuse, obsolete, wanting each side and at tip, impunctured, interstitial lines convex ; pectus and postpectus piceous ; feet testaceous ; venter blackish, paler at tip.

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Approaches the preceding, but, color apart, it may be known by the thorax being more contracted behind.

[Also a *Tachys*.—LEC.]

12. *B. LÆVUM*.—Piceous; palpi whitish; elytra destitute of striæ.

Length one-twentieth of an inch.

Body piceous tintured with rufous; head rather darker; antennæ paler at base; palpi whitish; thorax transversely subquadrate, broadest before the middle, hardly narrowed behind, lateral edge not excurved behind, posterior angles slightly obtuse, angular, basal edge nearly rectilinear, dorsal line obsolete, basal ones wanting; elytra impunctured, destitute of striæ, excepting an obsolete sutural one; feet testaceous.

I arrange this species with *Bembidium* from the habit, the palpi in the specimen I possess being mutilated. [89]

[A *Tachys* afterwards described as *B. troglodytes* Dej.—LEC.]

13. *B. VARIEGATUM*.—Black; head and thorax tinged with greenish; elytra varied with testaceous; feet pale piceous.

Length one-fifth of an inch.

Body impunctured, glabrous, beneath black; head black slightly bronzed; antennæ and palpi fuscous, base piceous; thorax blackish slightly bronzed, tinged each side with green, broadest in the middle, a little contracted behind, lateral edge a little excurved near the base, posterior angles rectangular, dorsal and basal lines distinct, an elevated acute line at the posterior angles; elytra black variegated with testaceous, or testaceous varied with black dots and lines, and with a slight cupreous tinge, striæ punctured, profound, interstitial lines convex, third one with two distant punctures.

Very closely allied to *B. dorsalis*, which may be a mere variety of this insect. This species is subject to great variety in its elytral markings, the chief color of the elytra being sometimes black and sometimes pale testaceous, with a greater or less number of lines and spots.

14. *B. TETRACOLUM*.—Greenish-black; feet rufous; elytra each with two rufous spots.

Length nearly one-fourth of an inch.

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Head deep greenish; antennæ fuscous; base and palpi rufous; thorax broadest before the middle, contracted behind, lateral edge excurved at base, base punctured; elytra blackish, striæ punctured, interstitial lines convex, third one with two distant punctures, a longitudinal, submarginal, rufous spot originating on the humerus, and an oblique, almost common, elongated one behind the middle; feet rufous.

[This species is the same as the European one, which by the latest authorities is considered as *B. ustulatum* (Linn.); which is also described as *B. rupestre* Illiger and Dejean, and considered by Erichson as *Carabus Andreæ* Fabr.—LEC.] [90]

TRECHUS Clairville.

Anterior tibiæ emarginate; anterior and intermediate tarsi of the male dilated; elytra and wings entire; palpi filiform, the last joint of the exterior ones as long or longer than the preceding joint, not narrowed at base, but forming with that joint a fusiform mass.

1. *T. CONJUNCTUS*.—Head piceous-black; thorax rufous, impunctured; elytra dusky; feet testaceous.

Length three-twentieths of an inch.

Body impunctured, glabrous; head black or deep piceous; antennæ brown; base and palpi testaceous; labrum piceous; mandibles rufous at base; thorax rufous, rounded behind, dorsal line not deeply impressed, basal lines slightly excavated, base impunctured; elytra blackish, margin and suture piceous obscure, striæ impunctured, interstitial lines depressed; pectus rufous; sternum black; feet testaceous; postpectus black; abdomen black.

Very common. The disk of the thorax is sometimes dusky or blackish.

[Belongs to *Stenolophus*, and was subsequently described as *Acupalpus misellus* Dej.; *A. rotundicollis* and *lugubris* Hald.—LEC.]

2. *T. PARTIARIUS*.—Head black; thorax rufous, rounded behind, punctured at base; elytra pale, disk dusky; feet testaceous.

Length less than three-twentieths of an inch.

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Body glabrous, beneath black ; head black ; antennæ brown ; base and palpi testaceous ; nasus and labrum piceous ; thorax rufous, rounded behind, dorsal line distinct, continued to the base, posterior lines excavated, dilated, and punctured, a few obsolete punctures before ; elytra pale rufous or testaceous, somewhat darker on the disk, striæ impunctured ; pectus rufous ; sternum black ; feet testaceous ; postpectus and abdomen black. [91]

Very closely allied to the preceding, is less common, and is distinct by the punctures of the thorax, by the less abrupt posterior termination of that part, and by the consequent less obtuse form of the angles.

[A species of *Stenolophus*, belonging to my 4th division, Trans. Am. Phil. Soc. 10, 386, and afterwards described as *Acupalpus pauperculus* and *consimilis* Dej.—LEC.]

3. T. RUPESTRIS.—Head black ; thorax dark rufous, punctured at base, posterior angles not rounded, beneath black ; feet testaceous.

Length nearly one-fifth of an inch.

Body glabrous, beneath black ; head black ; antennæ brown ; base and palpi testaceous ; nasus and labrum deep piceous ; thorax deep blackish rufous, gradually a little narrowed from before the middle to the hind angles, which are slightly angulated, the edge very slightly excurved at the hind angles ; elytra with impunctured striæ, disk blackish, margin and suture dark rufous ; pectus piceous-black ; sternum black ; feet testaceous ; postpectus and abdomen black.

Var. *a*. Length less than one-tenth of an inch.

Strongly resembles the two preceding species, but is sufficiently distinct by the form of the posterior thoracic angles.

It is highly probable that Var. *a*. is in reality a distinct species.

[A species of *Bradycellus*, afterwards described as *Acupalpus elongatulus* Dej., and *Trechus flavipes* Kirby.—LEC.]

Family III. *HYDROCANTHARI*.

DYTISCUS Lin. Latr.

Antennæ longer than the head, setaceous; scutel distinct; three basal joints of the anterior tarsi, in the male, dilated, patelliform; palpi filiform.

1. *D. FIMBRIOLATUS*.—Attenuated before, blackish-green above; thorax and elytra yellowish on the outer margin, the latter with three series of punctures. [92]

Dytiscus fimbriolatus Melsh. Catal.

Length one inch and one-fifth.

Body dark green, beneath piceous-black, impunctured, very distinctly widest behind and narrowed before; head smooth, with a slightly impressed spot on each side of the front; nasus and labrum yellowish, the latter with an impressed transverse puncture each side, the former blackish at base above; trophi and antennæ rufous; mandibles at tip and labium black-piceous; thorax with numerous, minute, impressed, irregular lines, an anterior, abbreviated, indented, transverse line each side of the dorsal one, lateral margin yellowish; elytra with very numerous, abbreviated, longitudinal, irregular, impressed, unequal lines, which are obsolete near the suture, tip, and on the outer margin, three series of distant punctures slightly villous, lateral one indistinct, costal margin yellowish, which becomes obsoletely semideltoid near the tip; pectus and postpectus piceous-black; feet piceous; femora and basal joints of the anterior pairs yellowish-rufous; venter piceous, three lateral rufous punctures on each side.

A black spot is often present on the middle of the yellow thoracic margin. This species approaches exceedingly near to *D. limbatus* of E. India; but, according to the observations of Dr. J. F. Melsheimer, it is smaller, the color is less olivaceous, more of a deep green, and the form a rather longer oval.

[A species of *Cybister*, afterwards described as *C. dissimilis* Aubé.—LEC.]

2. *D. VERTICALIS*.—Suboval, above blackish, with greenish re-

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flections; thorax and elytra margined with yellowish, the latter with an oblique subterminal line.

Length one inch and three-tenths.

Body impunctured, above black, with olivaceous green reflections, beneath piceous-black, suboval, very slightly broadest behind and hardly narrowing before; head large; vertex with an obscure rufous spot, a geminate, impressed, punctured spot near the nasus, numerous superciliary [93] punctures; nasus and labrum yellowish, the former with an abbreviated impressed line each side before; antennæ and palpi rufous at base, piceous at tip; labium ventricose between the insertion of the palpi, rufous; labium and gula rufous; thorax margined each side with yellowish, a longitudinal impressed line, a transverse, somewhat undulated, submarginal line of impressed punctures each side before, and a more abbreviated sparse one on each side behind; elytra margined each side with yellowish, which becomes obsolete behind, a yellowish, oblique subterminal line behind, three very distinct series of punctures, with alternate series of minute remote ones; pectus pale rufous; sternum black, hardly elevated before; postpectus piceous black; feet piceous; femora and basal joints of the anterior pairs rufous; venter piceous black, three obsolete, lateral, piceous spots.

Differs much from the preceding species, in being far more robust before, and instead of the semideltoid termination of the yellow margin, there is an oblique subterminal line, as in *D. marginatus*, but it is very distinct from the latter species, by not having the yellowish anterior and posterior thoracic margins.

3. *D. MEDIATUS*.—Blackish, punctured, beneath black; thorax with a yellowish band and margin; elytra fasciate behind.

Length about eleven-twentieths of an inch.

Head rufous-yellow varied with dusky, base black; front with sometimes two oblique blackish spots; nasus paler; labrum whitish, particularly on the anterior margin; thorax black, a yellowish margin and abbreviated narrow band which is abruptly dilated backward near the lateral margin, where it becomes confluent with the basal margin; scutel black, impunctured; elytra blackish-brown varied with yellowish, minute, irregular lines, and as well as the thorax with numerous, minute punctures. 1823.]

tures, a yellowish, narrow, exterior, and subsutural [94] margin, and a common, arquated, somewhat undulated band behind the middle, and a terminal one, obsolete or confounded with the tip; anterior feet and sternum testaceous; posterior feet piceous; thighs black; venter, third, fourth, and fifth segments each with a large, rufous, lateral spot.

The grooves of the elytra in the female of this species are obsolete and abbreviated, and not more distinct than those of the male.

[Belongs to *Acilius*, and was afterwards described as *Colymbetes Maccullochii* Kirby.—LEC.]

4. *D. TÆNIOLIS*.—Blackish; thorax margined each side with rufous; elytra covered with confluent black points, three acute, pale rufous, longitudinal lines on each elytron.

Length rather more than half an inch.

D. pictus Melsh. Catal.

Body oblong-oval, not wider behind, black, varied with rufous, beneath piceous-black; head with a double, impressed, very distinct line each side before; antennæ, labrum, and nasus rufous, the latter with an impressed line each side; thorax with a slightly punctured, transverse line before, and an obscure rufous margin; elytra rufo-testaceous, but rendered black by small, dense, confluent punctures, which are entirely confluent near the suture, an immaculate outer margin, and undulated subbasal line, three acute pale rufous lines on each elytron, punctured striæ indistinct, that next the suture more obvious, and composed of an interrupted series of minute punctures; pectus and postpectus piceous-black; feet rufo-piceous; venter piceous-black, segments piceous at tip.

I have seen but one sex of this species, a female, which was sent to me by Dr. J. F. Melsheimer, under the name which I have adopted; that of *pictus* above quoted, having been previously applied to a different insect, although that insect does not belong to this genus in a rigid arrangement. [95]

[This is a *Colymbetes* also found in South America; it was previously described as *D. calidus* Fabr., and subsequently as *Hydaticus meridionalis* Mels.—LEC.]

COLYMBETES Clairville.

Antennæ longer than the head, setaceous; scutel distinct; basal joints of the four anterior tarsi of the male almost equally dilated, not patelliform; palpi filiform.

1. *C. ERYT[H]ROPTERUS*.—Black; elytra dark-reddish-brown, margin and base paler; feet towards the tips piceous; body rounded behind.

Length not quite two-fifths of an inch.

Dytiscus eryt[h]ropterus Melsh. [Catal.

Body black, above divided by minute lines into minute, irregular, longitudinal, or suborbicular spaces; head black, two indistinct piceous spots on the vertex, and an abbreviated line and puncture on the front each side; antennæ and palpi rufous; thorax black, dorsal line abbreviated, obsolete, lateral edge arquated; scutel black, plain; elytra reddish-brown, darker on the posterior disk, immaculate, exterior margin and base paler, rounded behind, inflected margin black; pectus and postpectus black; sternum acutely carinated; feet piceous, middle of the thighs black, nails of the anterior pair in one sex dilated in the middle and compressed; venter black, segments piceous at tip.

Rather less convex than the succeeding species, and somewhat more dilated. The color of the head and thorax is manifestly distinct from that of the elytra, and forms a good specific character.

[Belongs to *Agabus*.—LEC.]

2. *C. FENESTRALIS*.—Black, slightly bronzed; elytra four-spotted, anterior spots obsolete, terminal ones distinct, beneath piceous-black.

Length two-fifths of an inch.

[96]

Dytiscus fenestralis Melsh. Catal.

Body black, above slightly bronzed and divided into very minute suborbicular, depressed granules, beneath piceous-black; head with two obsolete piceous spots on the vertex, a definite, impressed, abbreviated, oblique, frontal line, with a smaller oblique one above, each side; antennæ and palpi piceous; thorax, an obsolete, punctiform, central line, often wanting; elytra, on each a submarginal, elongated, obsolete, rufous spot behind the 1823.]

middle, and a subtriangular one near the tip; pectus and postpectus not obviously granulated; sternum acutely carinated; feet piceous; venter with very numerous, oblique, irregular lines.

Var. *a*. Above dark reddish-brown, margin paler, spots yellow, distinct, piceous; feet pale rufous.

My friend Dr. J. F. Melsheimer, in a letter written some time since, observes that "the two yellowish maculæ near the apex of the elytra differ oftentimes in depth of coloring and in size. I have several specimens that have the macula of an irregular, others of an oval or elongated form, and the color of all the different shades from a faint yellow to a light brown. It delights in miry forest springs, where it feeds on tender vegetables and minute insects. If it is caught and pressed between the fingers, it will exude from the divisional line of the stethidium (truncus) and abdomen, a white milky substance. It moves with great activity."

It undoubtedly approaches very closely to *C. fenestratus* of Europe, which insect has the same fenestrate elytral spots; as well as another insect which is described by Marsham under the name of *D. obscurus*.

[Belongs to *Ilybius*, and was afterwards described as *Dytiscus biguttulus* Germ.—LEC.]

3. *C. AMBIGUUS*.—Black; elytra dark reddish-brown; feet rufous; body somewhat acute behind; vertex with obsolete piceous spots. [97]

Length not quite seven-twentieths of an inch.

Body black, above with minute, depressed, irregular granules; head black, two indistinct piceous spots on the vertex and an abbreviated frontal line and puncture each side; antennæ and palpi pale rufous; thorax black, dorsal line obsolete; scutel black; elytra dark reddish-brown, immaculate, margin and base paler, apex acute; epipleura black; sternum acutely carinated; feet pale rufous, posterior ones rufous.

For this insect I am indebted to my friend Dr. J. F. Melsheimer, who sent it to me as a distinct species. It approaches very closely to *E. erythropterus*, but may be distinguished by its smaller size,

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less dilated form, more gradually attenuated and more acute posterior termination of the body.

[A species of *Agabus*, afterwards described as *A. infuscatus* Aubé: *Colymbetes discolor* Harris, is probably the same.—LEC.]

4. *C. SERIATUS*.—Black, immaculate, slightly purple-bronzed; elytra with about three irregular series of punctures on each; lateral edge of the thorax somewhat rectilinear.

Length seven-twentieths of an inch.

Body black; immaculate, above very slightly bronzed, divided into very minute, suborbicular, depressed granules, beneath black; head, a transverse frontal puncture each side, with double, parallel, obsolete, smaller ones above; antennæ and palpi rufous; thorax, submargin slightly depressed, dorsal line obsolete, lateral and basal edges nearly rectilinear, posterior angles subacute; elytra on each three irregular series of villous punctures, and a submarginal less distinct one; epipleura piceous; sternum acutely carinated, depressed behind, slightly elevated, obtuse before; feet rufous, posterior pair piceous.

This insect was sent me as distinct by Dr. J. F. Melsheimer. It is very closely allied to *C. nitidus*, but is considerably larger.

[Also an *Agabus* described as *A. striatus* Aubé, and *A. arctus* Mels.—LEC.]

[98]

5. *C. NITIDUS*.—Black; elytra with about three irregular series of punctures on each; lateral edge of the thorax arquated each side.

Length three-tenths of an inch.

Dytiscus nitidus Melsh. Catal.

Body black, immaculate, polished, and divided into very minute, irregularly orbicular granules, beneath black; head, a transverse, abbreviated, frontal line each side, superior punctures obsolete or wanting; antennæ and palpi rufous; thorax, dorsal line abbreviated, central, lateral edge arquated, posterior angles subacute; elytra with three irregular series of villous punctures, and a submarginal and sutural less distinct one; epipleura black; sternum acutely carinated, depressed behind; feet piceous, anterior ones rufous.

The chief difference between this species and the preceding one appears to rest in the general form and size of the body, the color 1823.]

and markings being nearly the same ; the present is much smaller, of a more rounded oval, and much more obtusely rounded before.

[Also an *Agabus*.—LEC.]

6. *C. BICARINATUS*.—Reddish-brown, punctured ; sternum bicarinated.

Length rather more than three-tenths of an inch.

Body reddish-brown or ferruginous, oblong-oval, with minute numerous punctures ; head, lateral frontal line oblique, puncture above wanting ; thorax, a submarginal slightly rugose line, dorsal line obsolete ; elytra attenuated behind, rather darker than the thorax, about three obsolete irregular series of punctures ; sternum bicarinate ; feet, anterior pairs paler.

[The type of the genus *Matus* Aubé.—LEC.]

7. *C. VENUSTUS*.—Pale rufous, beneath testaceous ; elytra blackish lineated with whitish. [99]

Length about three-tenths of an inch.

Body pale rufous, minutely punctured, beneath testaceous tinged with reddish, minutely lineated ; head blackish at base ; antennæ and palpi testaceous ; thorax at the middle of the base and tip blackish ; elytra blackish, with very minute, numerous fenestrate punctures, a submarginal whitish line interrupted at tip, passing round the humerus, and falcate on the base, an abbreviated subsutural one at base, hardly attaining the middle, and two or three smaller obsolete ones near the marginal line ; sternum acutely carinated.

A remarkably handsome and distinct species. It is not common, and may probably prove to be the *interrogatus* of Fabricius.

[This is *D. interrogatus* Fabr., and constitutes the genus *Coptotomus* Say, infra.—LEC.]

8. *C. GLYPHICUS*.—Dark brown or blackish ; elytra profoundly striated.

Length one-fifth of an inch.

Dytiscus glyphicus Melsh. Catal.

Body dark reddish-brown, minutely punctured, beneath blackish, minutely lineated ; thorax with an anterior, indented, rugous, submarginal line ; elytra with eleven profoundly impressed striæ, alternately abbreviated towards the tip, the inner ones abbreviated

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at base, marginal one extending from the middle towards the tip; feet rufous.

This insect varies in being of a paler color. I found it numerous in fresh water ponds on Sullivan's Island, South Carolina.

[A species of *Copelatus* afterwards described as *C. 10-striatus* Aubé.—LEC.]

9. *C. OBTUSATUS*.—Black; elytra four-spotted, punctured.

Length three-tenths of an inch.

Body black; head with two obsolete piceous spots on the vertex, a single [100] impressed, abbreviated, frontal line each side; antennæ and palpi piceous; elytra with two or three distinct series of punctures, somewhat irregular, scattered behind, each elytron with a pale, fenestrate, elongated, submarginal spot behind the middle, and a subtriangular one near the tip; feet piceous.

Var. *a*. Body beneath testaceous; frontal spots obsolete.

This species approaches very near to *fenestralis*, but differs in having the series of large distinct punctures, in being not more than half the size of that insect and more obtuse before. Found on Mr. R. Haines's farm, Germantown.

[A species of *Agabus* afterwards described as *A. gagates* Aubé.—LEC.]

10. *C. STAGNINUS*.—Oval, black, beneath rufous; vertex with two piceous spots; elytra with a submarginal whitish line behind.

Length less than seventh-twentieths of an inch.

Dytiscus stagninus Melsh. Catal.

Body oval, obtuse behind, black, beneath rufous; head with two obscure piceous spots on the vertex, a single, impressed, transverse, abbreviated line and point each side before; nasus and labrum piceous; elytra with three dilated lines of irregular, profound, rather large punctures, becoming confused at tip, an abbreviated, submarginal, whitish line on each elytron, originating near the middle of the tip; tergum with a few hairs each side behind.

[Also an *Agabus*, afterwards described as *A. striola* Aubé.—LEC.]

LACCOPHILUS Leach.

Antennæ setaceous, longer than the head; scutel none; anterior tarsal joints of the male not patelliform; palpi filiform.

1. *L. MACULOSUS*.—Yellowish-testaceous; elytra blackish, lineated and spotted with white. [101]

Length one-fourth of an inch.

Dytiscus maculosus Melsh. Catal.

Body yellowish-testaceous, glabrous; elytra blackish, three spots or dilated lines at base, of which one is humeral and one subsutural, each emarginate at tip and profoundly so on the inner side, and the third rather shorter, arising from the middle of the base, two marginal spots of which the anterior one is much the largest, a common irregular spot behind the middle, and an apical common band, white, tip obliquely truncate.

, Var. *α*. Trunk beneath black.

Var. *β*. Yellowish-testaceous; elytra with a common black band behind the middle.

Rather a common insect. The last variety is a remarkable one; but, when closely examined, traces of some of the spots are perceptible upon it.

2. *L. PROXIMUS*.—Yellowish-testaceous; elytra blackish, obsoletely spotted with dull whitish.

Length three-twentieths of an inch.

Body yellowish-testaceous, paler beneath; elytra with spots as in the preceding species, but obsolete, the larger marginal one distinct.

This species I found very numerous in the fresh water marshes of South Carolina. I do not hesitate to give it as distinct from the preceding, although so closely allied to it by the elytral maculæ. It is readily distinguishable by its inferior size.

[Afterwards described as *L. fasciatus* Aubé.—LEC.]

HYDROPORUS Clairville⁴

The four anterior tarsi apparently four-jointed, the fourth joint minute, and with the base of the fifth concealed in a profound fissure of the third joint; body oval, the breadth greater than the height; scutel none.

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1. *H. UNDULATUS*.—Ferruginous; elytra trifasciate with black. Length about three-twentieths of an inch.

Dytiscus undulatus Melsh. Catal.

Body ferruginous, very numerous, minute, villous punctures, hairs adpressed to the surface; head destitute of large, indented, frontal punctures; antennæ and palpi paler; thorax at base and tip black, lateral edge very slightly arquated; elytra, suture and three undulated irregular bands black, of the latter, one is basal, one central, and the other subterminal.

The bands sometimes occur dilated and decurrent, so as to form a common black disk to the elytra.

[Also described subsequently as *H. fasciatus* Harris; the ♂ is *H. pubipennis*, and the ♀ *H. velutinus* Aubé.—LEC.]

2. *H. OPPOSITUS*.—Blackish; head and base of the thorax ferruginous; elytra with six whitish marginal spots or subfascia.

Length rather less than three-twentieths of an inch.

Body with very numerous, villous, minute punctures, hairs adpressed to the surface; head rufous or ferruginous, four or six indented, frontal, distant punctures; thorax ferruginous, black at tip, about three indented punctures, placed transversely; elytra black, each with an irregular humeral spot, another placed upon the margin behind the middle, and a third apical one yellowish, edge yellowish; postpectus and venter blackish or deep piceous; pectus and feet yellowish-testaceous.

This was sent to me as a distinct species by Dr. J. F. Melshheimer. It is very like *undulatus*.

[This seems to be the species afterwards described as *H. proximus* Aubé.—LEC.]

3. *H. NIGER*.—Black, villous, obscure, immaculate; head and lateral margins of the thorax and elytra obscure rufous. [103]

Length more than three-twentieths of an inch.

Dytiscus niger Melsh. Catal.

Body black, obscure, very numerous, minute, villous punctures, hairs adpressed to the surface; head obscure rufous, paler beneath, dusky each side of the front, a slightly indented spot each side before instead of the impressed line and punctures; antennæ dusky towards the tip of each of the terminal joints; palpi, terminal joints blackish; thorax black, very obscure rufous 1823.]

on each side, dorsal line none; elytra black, very obscure rufous each side near the base, striæ or maculæ none; epipleura rufous; pectus and postpectus black; feet rufous; venter black, segments slightly piceous at tip.

4. *H. CATASCOPIUM*.^①—Black, obsolete, spotted and lineated with rufous; feet rufous.

Length three-twentieths of an inch.

Body black, obscure, with villous punctures, hairs adpressed to the surface; head obscure rufous, dilated orbits and base black, indented frontal spots each side instead of impressed lines and punctures; antennæ, terminal joints blackish at their tips; palpi, terminal joint black; thorax black, a central longitudinal spot, and irregular submarginal one each side, rufous, dorsal impressed line none; elytra black, margin rufous, with a transverse irregular process at base, and another at the middle, and common apical band, a double sutural line, an abbreviated line arising from the middle of the base, and a subsutural spot near the middle, rufous, a distinct sutural stria and an obsolete one near the middle; feet rufous.

[Afterwards described as *H. parallelus*^② and *H. interruptus*^③ Say.—LEC.]

5. *H. LACUSTRIS*.^④—Rufous, obscure; a common impressed, [104] longitudinal line each side on the base of the thorax and elytra.

Length more than one-twentieth of an inch.

Dytiscus lacustris Melsh. Catal.

Body rufous, obscure, with minute punctures; head with slightly impressed frontal spots; antennæ, terminal joints tipped with blackish; maxillary palpi blackish at tip; thorax blackish at base and tip, base each side with an impressed, acute, oblique line not attaining the anterior margin; elytra with a blackish suture, base, and submargin, an impressed, acute, longitudinal line as long as the thorax arises from the middle of the base of each elytron, appearing to be a continuation of the lateral thoracic line; pectus and feet pale rufous; postpectus blackish; venter pale rufous.

Var. *a.* Postpectus rufous.

[Afterwards described as *H. pulicarius* Aubé.^⑤—LEC.]

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6. *H. AFFINIS*.—Rufous, obscure; a common impressed, longitudinal line each side on the base of the thorax and elytra; elytra varied with longitudinal black lines.

Length more than one-twentieth of an inch.

Body rufous, obscure, punctured; thorax blackish at base and in the middle, an impressed, acute line each side at base not attaining the anterior margin; elytra with a blackish suture, base, irregular submargin and intervening abbreviated lines, punctures of the disk rather larger, distinct, impressed line of the middle of the base of each elytron much abbreviated, obsolete.

Differs from the preceding, to which it is very similar, in having rather larger punctures on the disk of the elytra, more distinct lines, and in having the impressed ones of the base very short and indistinct.

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[Afterwards described as *H. nanus* Aubé.—LEC.]

HYDROCANTHUS Say.

Antennæ rather longer than the head, somewhat thicker in the middle; scutel none; maxillary palpi filiform; labiales, terminal joint dilated, subovate, compressed, entire; anterior tibiæ mucronate, tarsal joints of the male not patelliform; a small pectoral scale covering the origin of the posterior feet.

H. IRICOLOR.—Ferruginous; elytra dark reddish-brown, iridescent, attenuated behind.

Length three-twentieths of an inch.

Body pale ferruginous, above glabrous, impunctured, beneath with villous punctures; head obtusely rounded before; eyes not elevated above the surface; antennæ eleven-jointed, originating beneath; labrum rather large, abruptly deflected, or somewhat inflected, entire; palpi whitish; thorax, posterior angles acute; sternum not prominent before, behind the origin of the anterior feet dilated, depressed, and connate with the poststernum by a rectilinear suture its whole width; poststernum dilated, depressed, equilateral, concealing the origin of the intermediate feet, posterior scales equilateral, obliquely truncate at tip, and concealing the origin of the posterior feet; feet, anterior tibiæ minutely pectinate beneath, and terminated by a robust decurved hook; 1823.]

tarsi abbreviated; elytra dark reddish-brown, iridescent, destitute of punctures or striæ, and attenuated behind.

This seems to be a rare insect; I have seen but a single specimen. This new genus certainly differs from all the genera of its family by the form of the labial palpi, of the sternum and poststernum, mucronate anterior tibia, &c. It closely approaches the genus *Noterus* by the dilated labial [106] palpi, but differs in having those parts entire. It also has some relation to *Haliplus* by the scales which conceal the origin of the posterior feet. The proper situation of this new genus is between those two genera, but it is unquestionably much more closely allied to the former.

HALIPLUS Latr.

Antennæ ten-jointed; palpi subulate; scutel none; tarsi filiform, five-jointed, posterior thighs concealed at base by a clypeiform scale; body oval, thick.

1. *H. 15-PUNCTATUS*.—Yellowish; thorax with two black spots at base; elytra punctured and spotted with black.

Length five-fortieths of an inch.

Dytiscus maculatus Melsh. Catal.

Body pale yellowish, with numerous dilated punctures, rounded behind; head immaculate; thorax, a distinct black spot each side at base; elytra pale, with profoundly punctured striæ, punctures dilated, black, each elytron with six black dots placed 1, 2, 1, 2, the anterior one before the middle, the two succeeding ones on the middle.

The *Dytiscus maculatus* of Fabricius is altogether different from this species; it is a *Colymbetes*. I have, however, thought proper to reject the name *maculatus* as applied to this insect, lest it should be confounded with the Fabrician insect by those who adhere to his system or to that of Linné.

[Belongs to *Cnemidodus*.—LEC.]

2. *H. TRIOPSIS*.—Pale yellowish; thorax with a black spot before; elytra whitish, spotted with black.

Length nearly three-twentieths of an inch.

Body pale yellowish, numerous dilated punctures; [107] thorax with a large conspicuous, deep black spot on the anterior

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margin; elytra paler than the body, striæ profoundly punctured, punctures color of the elytra, suture, base, tip and six spots on each elytron deep black, spots placed 1, 1, 2, 1, 1, the penultimate one joining the suture, suture at the centre dilated into a spot.

GYRINUS Linn.

Antennæ shorter than the head, second joint with a lateral process; eyes apparently four; two posterior pairs of feet dilated very much compressed.

1. *G. AMERICANUS*.—Blackish bronze, beneath piceous; elytra smooth, slightly sinuate at tip.

Length nine-twentieths of an inch, breadth more than one-fourth of an inch.

Gyrinus americanus, lævis, ater opacus, pedibus quatuor posticis testaceis. Fabr. Syst. Eleuth. 1, 275.

G. americanus, bronzé; pattes ferrugineuses; elytres simples, presque striées. Oliv. Ent. 3, No. 41, p. 12, pl. 1, fig. 5.

G. americanus Dr. Forsberg, Trans. Upsal Society.

Body oblong, subovate, blackish, slightly tinged with bronze or purplish, beneath piceous; head, labrum deeply ciliated with white hair; thorax impunctured, scutell none; elytra with very minute obsolete, distant punctures, disk plain, each side with four or five obsolete striæ, tip distinctly and very obtusely sinuated, a projecting angle at the sutural tip; poststernum with distant profound punctures before; feet testaceous, anterior pair rufous and destitute of a femoral spine.

A very common insect. When caught, a lactescent fluid [108] is secreted from the anal segment, that diffuses a strong odor very similar to that of the flowers of the *Calycanthas*.

2. *G. EMARGINATUS*.—Blackish-bronze, beneath blackish; elytra smooth, each simply rounded at tip.

Length nine-twentieths to eleven-twentieths of an inch.

Body blackish-green, slightly bronzed; beneath piceous black or fuliginous; head blackish-green; labrum at tip and antennæ at base ciliated with white hairs; thorax impunctured; scutell none; elytra with very minute, obsolete, distant punctures, striæ seven or eight, more distinct in the ♂, obsolete, each elytron 1823.]

rounded at tip, not sinuated or dentated; poststernum punctured before, punctures profound and distant; feet, posterior pairs testaceous, anterior pair in the ♂ furnished with a prominent angle or obtuse spine near the tip of the anterior edge of the thigh.

The elytra appear emarginated at the tip of the suture when at rest, in consequence of each of them having a rounded termination. This species must have hitherto been confounded with the *Americanus* with which it associates indiscriminately, but is sufficiently distinct by the armature of the anterior femora of the male and by the simply rotund termination of the elytra in both sexes.

3. *G. ANALIS*.—Black, slightly bronzed; elytra with punctured striæ; thorax with a transverse indented line.

Length one-fifth of an inch.

Body beneath impunctured and tinged with piceous; front between the eyes with two impressed dots; labrum at tip and palpi at base ciliated with white hairs; mouth beneath piceous; labial palpi testaceous, blackish at tip; thorax with a transverse indented line rather before the middle not attaining to the lateral margins, and a short oblique line on each side behind it curving towards the lateral edge; scutel distinct, subtriangular [109] elytra with about eleven distinct narrow striæ of punctures, interstitial lines depressed, each elytron very obtusely rounded at tip; poststernum impunctured; feet rufous; caudal segment testaceous.

Resembles *G. natator*, but that insect is larger; it corresponds in size with the *marinus* Gyllenh., but the punctures of the elytra are much smaller, and the termination of the elytra is more obtusely rounded.

4. *G. LIMBATUS*.—Black; elytra with punctured striæ; epipleura yellowish.

Length more than one-fifth of an inch.

Front bipunctured; thorax with an obsolete, transverse impressed line before the middle and a short oblique line each side behind the middle; elytra striate with small punctures, interstitial lines depressed, each elytron obtusely rounded at tip, beneath

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rufous; epipleura and margin of the pectus behind the eye yellowish.

I obtained this species in Georgia and East Florida. It closely resembles the preceding species, but may be at once distinguished from it by the color of the epipleura and inferior surface of the body.

[From Vol. IV, pp. 409—470.]

Descriptions of new North American Insects and Observations on some already described.

Read Nov. 2, 1832.

AMBLYCHEILA Say.

Labrum transverse, much wider than long; mandibles prominent, strongly toothed; labial palpi elongated; basal joint short, entirely concealed by the mentum; second joint short, spherical, resting on the edge of the emargination of the mentum; the third joint elongated, cylindric, with rigid hairs; fourth joint enlarging to the extremity where it is truncate, somewhat sinuate; mentum, tooth robust, prominent, canaliculate before, acute; antennæ, second joint two-thirds the length of the third; wings none; elytra united; eyes very small, hemispherical, entire; clypeus at tip entire.

A. CYLINDRIFORMIS Say, (*Manticora*) Journ. Acad. Nat. Sci. This insect, which I found near the Rocky Mountains, I described under the genus *Manticora*, but judging by the present mutilated state of the specimen it seems to agree better with the *Megacephala*. It differs from *Manticora* altogether in form, in the smaller size of the head, and in not having a lobed thorax, &c., but it corresponds in the comparative magnitude of the eyes, the diameter of which is hardly more considerable than that of the

[A portion of this paper, ending with *Pangus*, [IV, 431] was first printed in the *Disseminator*, (a newspaper published at New Harmony) from June 1830, to August 1830; another portion from the beginning to *Elatér obesus* [VI, 168] was issued as an 8vo. pamphlet, bearing on the title page the date 'New Harmony, Indiana, 1829—1833.'—*LEC.*]
1834.]

basal joint of the antennæ. In the size of the eyes it differs greatly from *Megacephala*, also in the circumstance that the basal joint of its labial palpi is altogether concealed by the mentum : but it agrees with this genus in form, and is probably [410] more closely related to it than *Manticora*. Still, however, as it does not agree with any known group, it may perhaps be proper to construct a genus for its reception.

MEGACEPHALA Latr.

M. CAROLINA Fabr.—This species is certainly found in the southern part of the Union ; I have an individual that was taken in New Orleans ; it varies a little from the West Indian specimens in being less deeply sculptured.

CICINDELA Linn.

1. C. UNICOLOR Dejean.—This species appears to have an extensive range. I received a specimen from Dr. Pickering of Massachusetts, and I found another in Florida. It varies in having a slight touch of white on the tip of the elytra.

2. C. MARGINATA Fabr. Syst. Eleut. 1, 241, No. 48.—Dejean has described this species under the name of *variegata*, Sp. Gen. 1, 84—see also vol. 2, 414.

3. C. UNIPUNCTATA Fabr.—Varies in having a very small obscure yellowish spot, half way between the ordinary spot and the tip, on the margin.

4. C. VULGARIS Say, Trans. Amer. Philos. Soc. 1818.—Since described by Dejean under the name of *obliquata*, Sp. Gen. 1, 72, but corrected vol. 2, Supp. 414.

5. C. HIRTICOLLIS Say, Trans. Amer. Philos. Soc. 1818.—Since described by Dejean with the name of *repanda*, Sp. Gen. 1, 74, but corrected vol. 2, 414.

6. C. DORSALIS Say, Trans. Amer. Philos. Soc. 1818.—Since described by Dejean with the name of *signata*, Sp. Gen. 1, 124, but corrected vol. 2, 414, Supp.; and on page 426 of the same Supplement he describes another species under the name of *dorsalis*, which, however, will of course be changed, as mine has the priority.

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7. *C. PURPUREA* Oliv. Ins. 33, pl. 3, f. 34. Say, Trans. Amer. Philos. Soc. 1818, p. 419. *C. marginalis* Fabr. Syst. Eleut. 1, 240, and Dejean, Sp. Gen. 1, 55. Olivier has certainly the priority, and consequently the exclusive right as being the first describer of this species. [411]

8. *C. SEXGUTTATA* Fabr.—Dejean has ascertained autoptically that *C. violacea* Fabr. is the immaculate variety of this species.

9. *C. 12-GUTTATA* Dej.—I obtained a specimen in Missouri State.

Of this genus I have in my cabinet twenty-two species, natives of the United States, that have been described.

ARETHAREA Say.

Artificial character.—Elytra truncated; terminal joint of the maxillary palpi acicular; anterior tibiæ simple.

Natural Character.—Head large, wider than the thorax, contracted behind at the junction with the thorax; antennæ originating beneath a carina, with the first joint much shorter than the head; labrum short, bilobated; the lobes divaricated; margin hairy; mandibles very prominent, arquated, acute; within prominently and acutely denticulated; maxillæ rectilinear with rigid hairs within; palpi with the penultimate joint dilated; ultimate joint acicular and minute; labium at tip with two equal membranaceous lobes and a lateral robust seta; palpi very small and feeble, terminal joint somewhat shorter and more slender than the preceding one; mentum transverse, simple; destitute of auricles; thorax cylindrical; truncate before and behind; elytra broadly truncate at tip; tibiæ, anterior pair simple; tarsi with subequal simple joints; the basal ones slightly longest; nails unarmed; posterior pair of feet with the nails pectinated.

Obs. The prominent, arquated and denticulated mandibles of this curious insect resemble, with some accuracy, those of *Cicindela*; but the general appearance and extraordinary assemblage of characters widely separate it. It has the truncated elytra of *Lebia* and its congeners; the simple anterior tibiæ of *Cicindela*; and a singular character that seems to connect the two families, that of having the anterior pair of nails simple and the posterior pair pectinated. We may also remark, however, that the acicu-
1834.]

lar terminal joint of the maxillary palpi is a trait in common with *Bembidium* Bon.

A. HELLUONIS.—Head black; thorax rufous; elytra blue.

Inhabits Pennsylvania.

Head punctured, somewhat hairy; eyes small, almost equidistant [412] between the tip of the mandibles and the thorax; antennæ, first and second joints pale rufous; labrum yellowish-rufous; mandibles piceous; palpi pale yellowish rufous; thorax punctured, excepting along the dorsal middle; elytra destitute of striæ or punctures, blue, with a purplish reflection; feet and postpectus pale yellowish; knees and tarsi brownish.

Length three-tenths of an inch.

The intermediate feet and the antennæ, excepting the first and second joints, are deficient in this specimen. I am not sure whether I obtained it on our journey to the Rocky Mountains, to St. Peter's river, or in Pennsylvania, but I think the latter.

[No insect has yet been seen by other entomologists, which at all approaches the description here given. With regard to the systematic relations which such an object would have, it is quite obvious that it should not be placed with the *Carabidæ*, since the mentum transverse, simple, destitute of auricles, is altogether foreign to the Adephagous series. This form of mentum, with the subulate palpi and bilobate labrum, fix the head, at least, as belonging to a *Staphylinide*. In that family the insertion of the antennæ, form of palpi, ligula and mandibles, prove conclusively that it enters the group *Pæderini*. In fact, there is nothing in the description of the head, thorax and anterior legs, which forbids a reference to *Cryptobium bicolor* or *C. melanocephalum*. With regard to the elytra and posterior legs, I must suppose them to have been derived from some foreign *Carabide*, and that the union was effected unintentionally, before the specimen came under Say's notice.—LEC.]

CASNONIA Latr.

C. RUFIPES Dej.—The insect of this genus represented by Drury (Ins. 1, pl. 42, f. 4 and 6) is probably a variety of this species. Dejean has not noticed this figure at all. The *Galerita americana* is represented in the same plate.

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SPHERACRA Say.

Elytra entire; tibiæ emarginate; terminal joint of the tarsi profoundly bilobated; nails simple; head as long behind the eyes as before them; thorax subcylindric; antennæ much shorter than the body; basal joint much shorter than the head, joints excepting the second not very unequal in length, subcylindric; labrum emarginate; palpi with the terminal joint somewhat fusiform, subacute; mentum with a prominent acute central tooth.

S. DORSALIS Fabr.—“Black; elytra striate, testaceous; suture broadly black.

Inhabits Carolina.

Museum of Mr. Bosc.

Smaller than *O. angustata*. Antennæ testaceous; head black, polished, broader than the thorax; thorax cylindrical, obscurely ferruginous; elytra striate, testaceous; suture broadly black, hardly attaining the tip; body black; feet testaceous.” Fabr.

Odacantha dorsalis Fabr. Syst. Eleuth. 1, 229.

In my specimen the head only is black, or rather of so deep a rufous as to appear black, excepting the tip and base. [413]

This well known species was referred by its discoverer, Fabricius, to his genus *Odacantha*; in which arrangement he was followed by Dejean, who, however, was fully aware of its generic difference from the *O. melanura*, Fabr. Dejean, in his observations on the genus, says, “that in consequence of the joints of the tarsi being less filiform than those of the type of the genus, almost triangular, the penultimate one deeply bilobate and the extremities of the elytra rounded, it would be perhaps proper to make a new genus of this insect.” In this remark I perfectly coincide, as I cannot see the propriety of joining, in the same genus, two insects whose characters in the artificial system place them in different families, though it cannot be denied that they have many, more intimate, natural affinities.

I had written the above with the expectation of introducing a new species, in an insect which, in form and color, resembles the *dorsalis* exceedingly to the eye, excepting in size; but on close examination it proves to be widely distinct.

[This genus was previously described as *Leptotrachelus* Fabr.

—LEC.]

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CYMINDIS Latr., Dej.

1. *C. PLATICOLLIS* Say, (*Lebia*) Trans. Amer. Philos. Soc. vol. 2, new series.

This species has been since described by Dejean under the name of *C. complanata*. In my specimens the palpi are hardly dilated. It varies in having the thorax darker and of the color of the head. I obtained an individual in Indiana.

2. *C. LATICOLLIS*.—Blackish; thorax transverse; feet pale rufous; elytra with slender striæ and minute punctures.

Inhabits near the Rocky Mountains.

Body black-brown, punctured, with short hairs: head ———; thorax decidedly transverse, with numerous somewhat large punctures; truncate before, and a little sinuate behind; margin each side depressed and a little elevated, dull rufous; at the posterior an obvious tooth; elytra with very slender capillary striæ in which are minute punctures, which are larger and more obvious towards the base and lateral margin; interstitial lines with a very slight convexity, and with numerous small punctures, rather larger than those of the striæ; lateral margin [414] obscure rufous; tip truncate, without any appearance of sinuation: beneath obscure rufous, punctured; feet rufous; thighs and trochanters paler.

Length about two-fifths of an inch.

I obtained it when on the expedition to the Rocky Mountains with Major Long. The thorax is shaped somewhat like that of *americana*, Dej., but is wider, as in *platicollis*, Say. The elytra have not the slightest appearance of being sinuated at tip.

3. *C. PILOSUS* Say, Trans. Amer. Philos. Soc.—Since described by Dejean, under the name of *pubescens*, Sp. Gen. 1, p. 215, but corrected in vol. 2, Suppl. p. 446.

CALLEIDA Dej.

1. *C. VIRIDIPENNIS* Say, (*Cymindis*) Trans. Amer. Philos. Soc.

This species has been since described by Dejean, under the name of *marginata*, v. Spec. Gen. 1, p. 222, but corrected vol. 2, Suppl. p. 450.

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He has given the name of *viridipennis* to another species; but as it is a subsequent name, he will of course change it.

2. C. SMARAGDINA Dej.—A specimen of this insect was sent to me by Dr. Pickering, from Salem, Massachusetts, so that it is probably a general inhabitant of the Atlantic States, but as I have found it myself but once (in the state of Ohio,) I should suppose it is rare.

3. C. PURPUREA Say, (Cymindis) Trans. Amer. Philos. Soc.

4. C. DECORA Fabr. Say, (Cymindis) Trans. Amer. Philos. Soc. Dej., Sp. Gen. 1, 224.

LEBIA Latr., Dej.

1. L. ORNATA Say, Trans. Amer. Philos. Soc.—Since described by Dejean under the name of *analisis*, Spec. Gen. 1, 265, and corrected, 2, Supp. 452.

2. L. VIRIDIS Say, Trans. Amer. Philos. Soc.—Dejean has described a species under the same name. It is closely allied to, if not the same as this, but if not the same species, the name must of course be changed. Spec. Gen. 1, 271.

3. L. FUSCATA Dej.—Varies in having the head nearly black, the thorax [415] yellowish ferruginous, and the elytra paler brown, the yellowish spots, particularly the terminal, almost obsolete.

BRACHINUS Weber.

B. STYGICORNIS.—Ferruginous; antennæ black; elytra blackish blue.

Inhabits Missouri.

Body ferruginous, with short hairs: head with irregular punctures; each side between the antennæ, becoming irregular, but slight; lineations near the eyes: antennæ brownish blue, first and second joints ferruginous: thorax with minute, irregular, transverse lines, dorsal lines well impressed: elytra slightly grooved, more obviously so towards the base; edges beneath purplish; postpectus, except in the middle, and venter blackish, with short whitish hairs.

Length seven-twentieths of an inch.
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Var. *a.* Sutural edge of the elytra ferruginous.

I obtained this species in the winter of 1819, when with Major Long's party, at Engineer Cantonment, near Council Bluff. It occurred in considerable numbers, occupying some crevices of rock, eight or ten feet under the surface, in a temporary quarry, where they were hybernating. It differs from *cyanipennis*, Say, found at the same locality, by the different color of the antennæ, &c.

Can this be the *janus*, or is the *quadripennis* Dej. synonymous with that species described in Turton's Linn. ?

CLIVINA Latr., Dej.

1. *C. BIPUSTULATA* Fabr.—The true species of this author has almost always, if not in every instance, but two spots on the elytra, and these are terminal. The second interstitial line has seven or eight subequidistant punctures, and the fourth interstitial line has five or six punctures, subequal, excepting the terminal one, which is more distant.

2. *C. QUADRIMACULATA* Palisot de Beauvois.—This species is quite distinct, though very closely allied to the *bipustulata*. It is similar in size and almost so in form; but the thorax is proportionally longer. In color it is generally like the preceding, but in addition to the two terminal punctures of the elytra, their base is more or less, but generally obsoletely, tinged with obscure rufous. The interstitial lines are [416] altogether destitute of punctures. I have a variety in my collection, of which the elytra are entirely of a rufous color and even paler than the terminal spots usually appear; these spots are of course not visible.

3. *C. VIRIDIS* Say, Trans. Amer. Philos. Soc., has been since described by Dejean under the name of *rostrata*, Sp. Gen. 1, 419, but corrected vol. 2, Supp. 478.

Of this genus I have eight described species of this country.

CARABUS Linn.

1. *C. VINCTUS* Weber.—I think it highly probable that Dejean is right in considering, as he does, (doubtfully however), my *C. interruptus* to be the same as this. Weber's expression, "lineis elevatis tribus," renders this conclusion highly probable.

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2. *C. LIGATUS* Germar, Sp. Novæ, p. 6.—Since described by Dejean under the name of *carinatus*, Sp. Gen. 2, 80. He quotes *ligatus* doubtfully as synonymous. His description, however, agrees so perfectly that I feel no hesitation in considering them the same.

3. *C. SERRATUS* Say, Trans. Amer. Philos. Soc.—Since described by Dejean under the name of *lineato-punctatus*, Sp. Gen. 2, 77; the former has, of course, the priority.

4. *C. EXTERNUS* Say, Jour. Acad. Nat. Sc.—The largest American species I have seen. It belongs to Dejean's twelfth division of this numerous genus. What is the *C. tædatus* L.?

CALOSOMA Weber.

1. *C. LUXATUM* Say, Jour. Acad. Nat. Sc. 3, 149.—Dej., Sp. Gen. 2, 196.

2. *C. LÆVE* Dej., Sp. Gen. 2, 210.—I obtained an individual of this insect in Mexico. It corresponds accurately with the description; but in addition I may add that it varies in having a large obscure rufous spot on the vertex.

3. *C. CALIDUM* Fabr.—My description in the Trans. Amer. Philos. Soc. was taken from the true Fabrician species as is evinced by the expression "dilated, impressed, golden dots," as applied to the elytral [417] excavations. But I did not sufficiently examine the very closely allied species which Dejean has separated from it, as I supposed it to be only a variety.

ELAPHRUS.

1. *E. FULIGINOSUS*.—This new species was found in Pennsylvania by Mr. Le Sueur, to whom I am indebted for the specimen; and although the head and thorax are destroyed, yet sufficient character remains to prove it the analogue of the *E. uliginosus*, Fabr., of Europe. In comparison with that species, however, many dissimilarities are perceptible. The discoidal indentations are larger and more obviously emarginated by the entering angles of the interstitial spaces. The interstitial spaces are somewhat less regular, and have rather large punctures, particularly towards the base; towards the tips of the elytra the punctures are not larger than those of the *uliginosus*, but are fewer in number. 1834.]

ber. The body is slightly larger than in that species. It appears to be rare.

[This is perhaps *E. cicatricosus* Lec.—LEC.]

2. *E. RUSCARIUS*.—This species I described in the Trans. Amer. Philos. Soc., with a mark of doubt, as the *E. riparius* Fabr., but having recently compared it more accurately with numerous European specimens, I think it may, with propriety, constitute a distinct, but certainly very closely allied species. In comparison with the *riparius*, it is rather more robust, of a darker color, more deeply sculptured, as well on the thorax as on the elytra, and the discoidal impressions are somewhat larger and more obvious.

In these characters my specimens all agree, and I possess more or less mutilated specimens from Pennsylvania, Mississippi, Arkansas, Missouri and the Rocky Mountains. I therefore have ventured to separate it as a distinct species.

NOTIOPHILUS Dumer.

1. *N. SEMISTRIATUS*, Say.—Closely allied to *N. aquaticus* F., and *biguttatus* F., partaking of the characters of both. Dejean states that it “ne diffère peut-être pas de l’une des espèces d’Europe,” but he does not inform us which of the species; indeed they are all so closely [418] allied, that considerable examination is required to detect permanent differences. The elytral puncture is small, and like that of *aquaticus*, placed nearer the base than that of the *biguttatus*, but the striæ like those of the latter, are not obsolete towards the tip; the four basal joints of the antennæ are rufous, &c.

2. *N. PORRECTUS* Say.—*N. semistriatus*, var. *b*, Say. Trans. Amer. Philos. Soc. On close examination I am convinced that this deserves to rank as a separate species. In comparison with either of the species above mentioned, the thorax is much more contracted behind, and the labrum is more advanced. The feet are entirely rufous, even including the thighs. The head is larger than that of the *semistriatus*, and the striæ are not so deeply impressed, but the impressed point of the elytra is similarly situated, though perhaps a little further back. The length is much the same. The color is tinged with violaceous.

[Previously described as *Elaphrus xeneus* Herbst.—LEC.]

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CHLÆNIUS Bonelli.

1. *C. PUSILLUS* Say, Trans. Amer. Philos. Soc.—Since described by Dejean under the name of *elegantulus*.

2. *C. TOMENTOSUS* Say, (*Epomis*) Trans. Amer. Philos. Soc.—This species has been referred to this genus by Dejean; the palpi are not sufficiently securiform for *Epomis*.

3. *C. CIRCUMCINCTUS*.—Green, tinged with violaceous; edges rufous.

Inhabits Louisiana.

Body green, more or less tinged with violaceous and brassy, punctured; head minutely and confluent punctured; in the middle tinged with bronze; lateral edges dark purplish; antennæ reddish brown, three basal joints pale yellow with rufous incisures; labrum and mandibles honey yellow; the latter black at tip; palpi yellow; terminal joints honey yellow; thorax deeply punctured, sparse near the anterior angles, and almost wanting each side of the middle; dorsal line acute, almost obsolete; basal lines widely indented; lateral edge regularly arquated; dull rufous; basal edge rectilinear in the middle and a little oblique each side, making the angles rather more than rectangular; green a little tinged with brassy; scutel dark purplish; elytra with profound, obsoletely punctured striæ; interstitial spaces flattened, punctuated, [419] sericeous; rather dull green with a slight violaceous reflection; exterior and apical edge dull rufous; beneath black; feet yellow, joints a little rufous; venter on the margin yellowish.

For this pretty species I am indebted to Mr. J. Barabino of New Orleans.

[Afterwards described as *C. virens* Chaud.—LEC.]

4. *C. VIGILANS*.—Head and thorax brassy; antennæ at base and feet ferruginous; elytra violaceous.

Inhabits Mexico.

Pubescent; head impunctured, brassy-green, polished; two obsolete indentations between the antennæ; labrum transversely narrow, truncated, and with the palpi dull rufo-ferruginous; antennæ fuscous, pubescent, three basal joints subglabrous, rufo-1834.]

ferruginous; thorax brassy-green, with rather dense, very short hair, polished; dorsal and basal impressed lines distinct; posterior angles not excurved, but obtusely angulated, almost rounded; elytra bluish violaceous, with punctured striæ; interstitial spaces pubescent, depressed, and minutely granulated, beneath blackish; feet rufo-ferruginous.

Length half an inch.

Much like *C. nemoralis* Say, but the antennæ of that species are entirely rufoferruginous, its posterior thoracic angles are slightly excurved, &c.

5. *C. SOCCATUS*.—Blackish; feet ferruginous with blackish tarsi and joints.

Inhabits Mexico.

Body blackish, with a slight violaceous tinge; minutely pubescent, punctured; head blued-black, glabrous, two slight indentations between the antennæ, and an obsolete transverse one between the eyes; antennæ pubescent, blackish, three basal joints dark piceous; palpi piceous; thorax short; lateral margin regularly arquated; posterior angles rounded; impressed lines dilated; elytra with punctured striæ; interstitial spaces minutely granulated, depressed; beneath blackish; feet rufo-ferruginous, joints and tarsi blackish-piceous.

Length nearly half an inch.

Resembles *vigilans* Nob., but the thorax is shorter and the lateral curvature is more regular, that of the preceding species being almost rectilinear from near the middle to the posterior angles; the colors also are different in their arrangement. [420]

Of this genus I have sixteen North American described species.

OODES Bonel.

O.? *PARALLELUS*.—Black; thoracic angles rufous; feet piceous.

Inhabits Louisiana.

Body black, very slightly tinged with piceous; head with but a slightly impressed point between the antennæ; antennæ reddish brown, three basal joints honey yellow; palpi honey yellow; mandibles piceous; thorax narrowed before, smooth, dorsal line

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distinct, not extended on the margins; basal lines distinct, oblique; region of the posterior angles a little, but widely, depressed, rufous or sanguineous, and by transmitted light it appears reticulated; impunctured; posterior angles rounded, but not obtusely so; greatest width a little behind the middle; elytra with the striæ continued parallel to the tip, well impressed, minutely punctured; interstitial spaces depressed, third with a single slight puncture on the posterior fifth from the base; beneath black; posterior angles of the pectus, epipleura and feet piceous; anterior tarsi with four not widely dilated subquadrate joints, the fourth joint being as large as the third, and all beneath with dense fastigiate hairs; intermediate tarsi also somewhat dilated.

Length less than two-fifths of an inch.

The elytra are hardly perceptibly sinuous near the tip.

The specimen, for which I am indebted to Mr. J. Barabino of New Orleans, is a doubtful congener of the *O. helopoides* Fabr., than which the body is somewhat more elongated, the thorax more gradually narrowed before. It has at first sight more the appearance of the *Harpalus terminatus* or *Calathus gregarius* Say. The intermediate tarsi are somewhat dilated, the anterior tarsi are not widely dilated and the terminal joint is as large as the preceding one. I place it in this genus provisionally, more specimens may show this arrangement to be incorrect. The parallelism of the striæ of the elytra to their termination is a remarkable character, even more obvious than in the *helopoides*.

[The type of *Lachnocrepis* Lec. Trans. Amer. Phil. Soc. 10, 391.—LEC.] [421]

DICÆLUS Bonelli.

1. *D. PURPURATUS* Bonelli.—Since described by Dejean under the name of *chalybæus* Sp. Gen. 2.

2. *D. ELONGATUS* Bonelli Say, Trans. Amer. Philos. Soc.—Dejean is of the opinion that this is not the *elongatus* of Bonelli, and has described it with the name of *furvus*, but he has not stated the reasons for this opinion.

[*D. furvus* Dej. is totally distinct from *D. elongatus*: it is allied to, and perhaps identical with *D. ovalis* Lec.—LEC.]

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POGONUS Zeigl.

P. RECTUS Say, (Feronia) Trans. Amer. Philos. Soc.—I may add to the description that the striæ are well impressed and punctured rather densely on the sides; third interstitial line with about three punctures, excepting the middle one, hardly distinct from the punctures of the striæ.

[Belongs to *Loxandrus*; the anterior tarsi of the male are obliquely dilated, which accounts for the error of Say in referring it to *Pogonus*.—LEC.]

PATROBUS Meg.

P. LONGICORNIS Say, (Feronia) Trans. Amer. Philos. Soc.—Recently described by Dejean under the name of *americanus*, Sp. Gen. 3, p. 34. Why he has added a synonym in this case, I know not.

ANCHOMENUS Bonelli.

1. A. DECENTIS Say, (Feronia) Trans. Amer. Philos. Soc.—Has been recently described by Dejean under the name of *gagates*.

2. A. CINCTICOLLIS Say, (Feronia) Trans. Amer. Philos. Soc.—Since described by Germar under the name of *blandus*, Sp. Novæ, p. 12, and recently by Dejean by the name of *corvinus* Sp. Gen. 3, p. 109.

3. A. EXTENSICOLLIS Say, (Feronia) Trans. Amer. Philos. Soc., is also referred by Dejean to this genus.

4. A. DECORUS Say, (Feronia) Trans. Amer. Philos. Soc. is also referred to this genus by Dejean.

5. A. COLLARIS.—Black with a hardly obvious tinge of purple; tibiæ and tarsi piceous; thorax subquadrate; elytra with three punctures on the third interstitial line.

Inhabits Indiana.

Body black, polished, glabrous, with a few, rather long, marginal [422] hairs; head impunctured; base of the first joint of the antennæ, of the mandibles black-piceous; antennæ at tip brownish, third joint of the same length as the fourth;

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impressions between the eyes rather deep; thorax rather short, wider than long, subquadrate, impunctured; lateral edge regularly curved; margin slightly elevated, narrow, broader towards the posterior angles; dorsal and anterior lines distinct; posterior lines dilated, suborbicular, slightly rugous; posterior angles very obtuse; anterior and posterior margins subequally broad; elytra with acutely impressed striæ, regularly punctured; punctures small, obsolete towards the tip; third interstitial line with three punctures, two at the third striæ and the terminal one at the second striæ; interstitial lines much depressed; tibiæ, tarsi, knees and extreme base of the thighs piceous.

Length seven-twentieths of an inch.

This species is rather more robust in proportion to its length than the other American species. The thorax is much broader and shorter. The species is perhaps more like *scutellaris* Say, than any other; that insect is remarkably depressed about the region of the scutellum.

AGONUM Bonelli.

1. *A. SUTURALE*.—Green, polished; suture cupreous.

Inhabits Mexico.

Above metallic green, polished, impunctured; head with a slight coppery reflection; labrum, antennæ and palpi blackish; thorax varied with cupreous; dorsal line and basal dots obviously indented; elytra with very slender striæ; interstitial spaces wide and plain, first one cupreous, third with three punctures, equidistant, basal one on the third striæ, middle one on the second striæ; beneath piceous black; coxæ piceous.

Length three-tenths of an inch.

This is a brilliant species, equalling in this respect the *8-punctatum* Fabr., and *errans* nob. and but little inferior to *cupripenne* nob., all of which, together with *nutans* nob., belonging to this genus, although I referred them to the including genus *Feronia*, Latr. The *cupripenne* nob., is equal in splendor, though not in magnitude, to the *6-punctatum* Fabr. In comparison with *parumpunctatum* F., the form is more robust, thorax more brilliant, wider, and is as wide at base as anteriorly; the interstitial spaces also are much more flattened.

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2. *A. ORBICOLLIS*.—Black; thorax rounded; third interstitial line with three punctures.

Inhabits Mexico.

Body black, polished, impunctured; antennæ ———, basal joint and palpi piceous; thorax orbicular, truncate before and slightly so behind; lateral edge regularly arquated, not depressed, but with a simple and equally elevated edge; dorsal line obsolete, anterior and posterior transverse lines obsolete; basal impressed lines or dots distinct; elytra with well impressed striæ, which are crenate, not punctured; interstitial lines convex, the third from the suture with three equidistant punctures; feet piceous;

Length nearly seven-twentieths of an inch.

Size of *A. viduum* Fabr., with the similar punctures on the third interstitial line, excepting that they are equidistant, and these lines are more convex, the thorax is much more orbicular, the feet differently colored, and there is no brassy reflection. This cannot be the *melanarium* Dej., for the striæ are as obvious as in the *viduum*, and although the thorax agrees with that insect in being "plus étroit" than that of the *viduum*, yet it would not be described as "subrotundato," as that author applies the same term to designate the form of the thorax of *viduum*. It is much like *A. punctiforme* Say, but it is a little more elongated, the thoracic lines are much less distinct, &c.

3. *A. NUTANS* Say, (Feronia) Trans. Amer. Philos. Soc.—Since described by Dejean with the name of *striatopunctatum*.

4. *A. ERRANS* Say, (Feronia) Journ. Acad. Nat. Sci.—The interstitial space has three punctures, of which the first and second are somewhat nearer than the second and third.

5. *A. PUNCTIFORME* Say, (Feronia) Trans. Amer. Philos. Soc. I have an individual that has four punctures on the third interstitial space, as Dejean describes his *albicrus* to have.

6. *A. OBSOLETUM* Say, (Feronia) Trans. Amer. Philos. Soc. Since described by Dejean by the name of *luctuosum*, Sp. Gen. 3, 172.

7. *A. LIMBATUM* Say, (Feronia) Trans. Amer. Philos. Soc. Since described by Dejean by the name of *palliatum*, Sp. Gen. 3, 174.

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OLISTHOPUS Dejean.

1. *O. PARMATUS* Say, (*Feronia*) Trans. Amer. Philos. Soc. Dej. Sp. Gen. 3, p. 181.

2. *O. CINCTUS*.—Blackish; edge of the thorax, elytra and feet dull rufous.

Inhabits Pennsylvania.

Body blackish; head impunctured; antennæ dusky, pale rufous at base; palpi piceous; thorax with the dorsal and anterior lines almost obsolete; lateral narrow margin obviously rufous; lateral basal impressions very distinct, suborbicular and sparsely punctured: elytra dull reddish brown, with a slight perlaceous reflection; striæ well indented, impunctured; interstitial spaces depressed, third space with an impressed puncture beyond the middle; feet yellowish piceous, posterior pair darker.

Length less than three-tenths of an inch.

Much like the *parmatus* Say. It is more slender.

[A specimen was given me by Dr. Melsheimer; not different from *O. parmatus*.—LEC.]

FERONIA Latr. Dej.

PÆCILUS Bon.

1. *F. CONVEXICOLLIS* Say.—Resembles *F. chalcites* Say, but is shorter, the thorax more convex, and the punctures of the third interstitial stria of the elytra are three, of which the terminal one is near the tip.

STEROPUS Meg.

2. *F. OBSOLETA*.—Blackish-ferruginous; elytra, striæ obsolete each side and at tip.

Inhabits Indiana.

Body very dark rufous, polished; labrum, palpi, mandibles at base, antennæ, feet and abdomen honey-yellow; head impunctured; a slightly raised line over the antennæ, inside of which the front is slightly corrugated transversely each side; thorax with the surface obsoletely corrugated, visible in a particular direction; dorsal line acute, slightly impressed; basal lines indented, single, viewed from above orbicular, definitely and rather deeply 1834.]

impressed; base a little emarginate, not wider than the abdominal petiole; elytra with punctured, not deeply impressed striae, obsolete at tip and on each side; marginal ocellate punctures about seventeen, in a continuous series rather sparse in the middle: near the tip very slightly sinuated; third interstitial space with a puncture [425] near the middle of the second stria.

Length two-fifths of an inch.

Closely allied to *S. Illigeri* Panz., but the thorax of that species is not so narrow at base, and its elytral striae are not obsolete at tip, and not even decidedly so on the sides. It is exceedingly like *S. ventralis* N., but it is more robust, and the sides of the elytra are more arquated.

The characters of this species agree very well with the description of *tenebricosa* Dej., excepting that the elytra are not "assez fortement sinuées postérieurement."

3. *F. OBSCURA*.—Black; tibiae and tarsi dark rufous; elytral striae obsolete on each side.

Inhabits Indiana.

Body black; labrum and base of mandibles tinged with rufous; palpi dull honey-yellow; antennae blackish ferruginous; front with two indented lines; head impunctured; thorax not so narrow at base as the petiole; dorsal line acute, not deeply impressed; basal lines well indented, definite, impunctured, not orbicular, viewed in any direction, very slightly arquated; elytra striate; the striae not distinctly punctured, obsolete on the lateral submargin, and not so obvious at tip as on the disk; marginal ocellated punctures about seventeen; near the tip rather slightly sinuate; third interstitial tripunctured, the two anterior punctures at the third stria.

Length less than nine-twentieths of an inch.

Resembles the preceding, but the thorax at base is wider, and the body is longer. In the proportion of the base of the thorax it corresponds with *F. Illigeri* Panz., but aside from color, it may be distinguished from the obsolete lateral striae, the much less dilated thoracic basal lines, &c.

PLATYSMA Sturm. Dej.

4. *F. OBLONGONOTATA*.—Dark reddish-ferruginous; elytra with five or six large subsutural punctures.

Inhabits North West Territory.

Body with a hardly perceptible metallic gloss; head darker; thorax with the dorsal line very distinct; lateral basal lines well indented and with obsolete confluent punctures; posterior angles angulated; elytra striated; five or six large indented punctures placed somewhat [426] alternately on the second and third stria; marginal ocellate punctures with their regions indented.

Length nine-twentieths of an inch.

This is the analogue of the *F. oblongopunctata* F., corresponding in the punctures of the elytra, but differing in color, and having the thorax somewhat more robust.

5. *F. DEPARCA*.—Reddish-brown; thorax punctured on the anterior and posterior margins.

Inhabits Mexico.

Body reddish-brown, rather pale; head much darker, tinged with blackish, impunctured; antennæ short, not reaching the base of the thorax; thorax rather abruptly contracted behind; anterior and posterior margins deeply punctured, the punctures of the former not extending to the lateral margin; lateral margin with a puncture furnishing a hair on the middle and another on the posterior angles, which are rectangular; dorsal line distinct, but not deeply impressed; basal impressions dilated, and with all the base punctured; elytra with slender striae, not deeply impressed, but with very distinct punctures; stria obsolete towards the tip; epipleura and all beneath paler.

Length nearly half an inch.

The light color, with the punctured anterior and posterior thoracic margins, will distinguish this species.

It was taken by William Bennett and presented to me by Mr. Maclure.

ABAX Bonelli.

6. *A. CORACINUS* Say, Trans. Amer. Philos. Soc.—I think this is the insect that Dejean has recently placed in Ziegler's genus 1834.]

Myas, and described under the name of *cyanescens*; the insect agrees perfectly with his description, but as the palpi of my only remaining specimen are deficient, I cannot be certain of its generic identity.

7. F. [A.] PERMUNDA.—Black, with a perlaceous reflection; third interstitial line three-punctured.

Inhabits Indiana.

Body black; antennæ piceous, dull honey-yellow towards the tip; distinctly compressed; joints, in profile a little narrowed to the base; palpi piceous, not at all securiform, terminal joint less dilated at tip than that of the preceding joint; thorax with a slight perlaceous reflection, rather narrower at tip than at base; lateral margin depressed, [427] punctured, gradually reflected to the edge, which is but little arquated; posterior angles rectangular; disk impunctured; dorsal line well indented; basal lines two on each side, punctured within, deeply impressed, the exterior one very short; elytra brownish-black, somewhat iridescently pearlaceous; striæ deeply indented, impunctured; scutellar striæ short, but definite; interstitial spaces convex; third three-punctured, first puncture near the base on the third stria, second on the middle on the second stria, third towards the tip, also on the second stria; beneath piceous; sides very distinctly and numerously punctured.

Length half an inch.

I obtained this fine species a few days since under an old log. It does not at all agree with either of the descriptions of Dejean. The labrum is not emarginate. The terminal joint of the palpi is less dilated towards the tip than that of the *A. parallelus* Duftschm., or *A. metallicus* Fabr.

MOLOPS Bonelli.

8. F. CONSTRICTA Say, Journ. Acad. Nat. Sciences.

STOMIS Clairv., Dej.

S. GRANULATUS.—Black, antennæ dull rufous, blackish piceous towards the base.

Inhabits Mexico.

Body black, apterous, polished; head impunctured; impressed lines between the antennæ very obvious; antennæ blackish-pi-

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ceous to the fifth joint, which with the others are dull rufous; first joint hardly as long as the third; labrum a little prominent, piceous, widely but not deeply emarginated before; palpi dull rufous, not very widely truncated at tip; labial not securiform; mandibles prominent, very acute; thorax as long as broad, not remarkably convex; impunctured; dorsal line distinct, not extending to the base, which is a little depressed; lateral margin depressed and reflected, narrow, wider near the posterior angles, which are somewhat acute; lateral edge excurved near the posterior angle; basal lines distinctly indented and dilated; base considerably wider than the peduncle; elytra somewhat depressed, ovate-oval; surface composed of very minute granules; striae slender, deeply impressed, impunctured; third interstitial space with three nearly [428] equidistant punctures, the terminal one much the largest, with minute elevated centres; tip very obtusely sinuous; tarsi dull rufous.

Length less than two-fifths of an inch.

Taken by William Bennett, during his stay in Mexico with Mr. Maclure.

It will be obvious from this description, that our species does not well correspond with the *S. pumicatus*, Panz., but agreeably to the tables given by Dejean it cannot be placed elsewhere. It is larger and more dilated than *pumicatus*, the basal joint of the antennae is shorter, the palpi are not so obtusely truncated, and its habit and appearance quite different.

PELOR Bonelli.

P. AVIDUS Say, (Zabrus) Journ. Acad. Nat. Sc. [Ante, 95.]

AMARA Bonelli.

In my paper on the *Curabici* and *Hydrocanthari*, published in the Trans. Amer. Philos. Soc. vol. 2, new series, as above quoted, I described five species of the United States, under the genus *Feronia*, agreeably to the arrangement of Latreille, indicating, however, at the same time, that they belonged to Bonelli's *Amara*. But Dejean and many other distinguished entomologists give the group a separate station.

1. A. MUSCULIS Say, (Feronia) Trans. Amer. Philos. Soc.—
Dej. Sp. Gen. 3, 477.
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2. *A. BASILLARIS* Say, (Feronia) Trans. Amer. Philos. Soc.
3. *A. IMPUNCTICOLLIS* Say, (Feronia) Trans. Amer. Philos. Soc.—Dejean thinks it the same as *A. trivialis*, Duftschm., but I have not yet compared it.
4. *A. ANGUSTATA* Say, (Feronia) Trans. Amer. Philos. Soc.
5. *A. OBESA* Say, (Feronia) Trans. Amer. Philos. Soc.
6. *A. IMPUNCTATA* Say, (Feronia) Trans. Amer. Philos. Soc.—Dejean thinks it the same as the *familiaris*, Duftschm., but I have not satisfactorily compared them.

The following species appear to be new: [429]

7. *A. DOLOSA*.—Black; oblique line near the thoracic angle obviously impressed; elytra with impunctured striæ.

Inhabits Mexico.

Body black, impunctured; head with the impressed lines between the antennæ obsolete; antennæ fuscous, joints rather short, three basal joints honey-yellow; palpi black piceous, thorax rather short, lines not deeply impressed; oblique line near the posterior angles very distinct; hair of the lateral margin situated at one-third of the distance between the anterior and posterior angles, another hair at the basal angle; elytra with impunctured capillary striæ; interstitial lines depressed, hardly convex; feet piceous-black; tibiæ and tarsi a little paler.

Length nearly three-tenths of an inch.

Resembles *A. impuncticollis*, nob., and *A. communis* and *vulgaris* Fabr., but differs from all in color, greater brevity of the thorax, more robust form, &c. Viewed in a particular light, a tint of blue may be, with some difficulty, detected.

8. *A. SERA*.—Greenish black; three basal joints of the antennæ yellowish.

Inhabits Mexico.

Antennæ fuscous; first, second, third and base of the fourth joints yellowish; thorax impunctured, basal angles rectangular, with the oblique line not deeply impressed; basal lines rather deep, abbreviated, definite, impunctured; dorsal line distinct; elytra with the striæ impunctured, acutely impressed; basal abbreviated striæ rather long; interstitial lines with a very slight

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convexity, nearly flat; near the lateral tip slightly and rather acutely sinuated; tibiæ and tarsi-piceous.

Length three-tenths of an inch.

The thorax is longer than that of the preceding species, and the interstitial lines are a little convex, which will readily distinguish it from *A. impuncticollis*, N. The colors of the antennæ as strongly contrast as those of *A. vulgaris* F.

9. *A. FURTIVA*.—Pale; thorax punctured at base; elytra with punctured striæ.

Inhabits Indiana.

Body honey-yellow, more or less tinged with dusky; antennæ, palpi and all beneath paler; head with the frontal impressed lines dilated, distinct; thorax a little contracted at base, the posterior angles slightly excurved and acute; dorsal line well impressed, particularly behind the [430] middle; basal lines deeply impressed and definite, punctured; impressed lines of the posterior angles, distinct and rather deep, punctured; base punctured; elytra with punctured striæ; the punctures orbicular and close set; near the tip obtusely, but not deeply sinuated.

Length less than two-fifths of an inch.

Resembles the *A. fulva*, Ill., particularly in the form of the thorax. The color has sometimes a very slight metallic tinge, but never so obvious as in the *fulva*.

10. *A. ? GROSSA*.—Alternate interstitial spaces punctured.

Inhabits N. W. Territory.

Body short, robust, convex, blackish piceous; head ———; thorax convex, descending much each side, transverse, oblong-quadrate; dorsal line almost obsolete; anterior transverse line hardly obvious; basal margin depressed and somewhat rough; lateral margin depressed, but not elevated except near the posterior angles lightly; elytra with a sinus near the tip; striæ well impressed, impunctured; interstitial spaces with from five to eight distinct punctures on the third, fifth and seventh spaces; marginal series of punctures small, almost indistinct.

Length of thorax and abdomen nine-twentieths of an inch.

This species I found in the north western part of the United States when traversing that country with Major Long's party. It is a remarkable insect, readily distinguishable by the peculiar

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puncturing of the elytra. I have two specimens, both of which are mutilated, so that I am not perfectly sure it belongs to this genus.

[This is probably *Nothopus zabroides* Lec. formerly described by me as *Euryderus zabroides*, but the description is hardly sufficient.—LEC.]

DAPTUS Dej.

D. INCRASSATUS Dej.—This insect appears to be rare.—I obtained an individual in Pennsylvania. It has not yet occurred to me in the western States.

[The type of *Geopinus* Lec.—LEC.]

CRATACANTHUS Dej.

C. PENNSYLVANICUS Dej., is a common insect.—But it is not confined to Pennsylvania, as the name would seem to imply; it is abundant in this state, and I obtained three specimens near the Rocky Mountains; [431] these are somewhat smaller than the inhabitants of this vicinity, and of a paler color.

PANGUS Zeigl.

P. CALIGINOSUS Fabr.—Dejean refers this large species to *Pangus*, which he makes a division of his genus *Selenophorus*.

ANISODACTYLUS Dej.

1. A. DILATATUS.—Black; thorax transverse quadrate, not contracted behind; impunctured; first joint of the antennæ testaceous.

Inhabits Mexico.

Body black, impunctured; antennæ not reaching the base of the thorax; first joint pale testaceous, second joint darker, remaining joints blackish; impressed frontal lines very distinct; thorax without any appearance of puncture, not narrowed behind; lateral edge regularly arquated; posterior angles rounded; dorsal line not very obvious; basal indentations much dilated, not profound; minute longitudinal lines or wrinkles at the middle of the base, and less obvious ones on the anterior margin; elytra, striæ profound, impunctured; interstitial spaces depressed; tip very

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obtusely sinuous; abdomen, terminal and anal segments above punctured.

Length less than half an inch.

This species is closely allied to the *A. cænus* Say, and its form is perhaps still more like that of an *Amara* in being more obtuse and robust. It is much larger and more rounded behind. It was taken in Mexico by William Bennett, and was presented to me by Mr. Macleure.

2. *A. BALTIMORIENSIS* Say, (Harpalus) Trans. Amer. Philos. Soc.; Dej. Spec.—A very bad name, as the species is found as well in Indiana as in Baltimore; but it is a specific name, and therefore unchangeable.

3. *A. RUSTICUS* Say, (Harpalus) Trans. Amer. Philos. Soc.; Dej. Spec.; *A. merulus*? Germar.

[*A. merula* is quite different.—LEC.]

4. *A. CÆNUS* Say, (Harpalus) Trans. Amer. Philos. Soc.; Dejean Spec.

5. *A. AGRICOLUS* Say, (Harpalus) Trans. Amer. Philos. Soc.; Dej. Spec. [432]

6. *A. CARBONARIUS* Say, (Harpalus) Trans. Amer. Phil. Soc.

7. *A. LÆTUS*? Dej.—An insect is found in this vicinity which I have referred, but very doubtfully, to the *lætus*. Its characters correspond to the description, but if it be indeed the same a very important character must be added. My specimen is a male. The alternate interstitial spaces are cupreous, and the remaining part is green. It has a very much dilated, slight indentation behind the middle of the elytra, and a smaller one nearer the tip.

OPHONUS, Zeigl.

O. INTERSTITIALIS Say, (Feronia) Trans. Amer. Philos. Soc. Since described by Dejean under the name of *Harpalus obscuripennis*.

HARPALUS Latr.

1. *H. VULPECULUS* Say, Trans. Amer. Philos. Soc.—Since described by Dejean under the name of *nigripennis*. It differs however from his description, by having an impressed puncture
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on the third elytral stria; but I have a variety altogether destitute of the puncture.

2. *H. VIRIDIS* Say, Trans. Amer. Philos. Soc.—Subsequently described by Dejean under the name of *assimilis*.

3. *H. MEXICANUS* Dej. Sp. Gen.—This appears to be a common species. Mr. Maclure has recently sent me specimens by Wm. Bennett, and I obtained it also in that country.

4. *H. IRICOLOR* Say, has been recently described by Dejean under the name of *dichrous*. I obtained a specimen formerly, with a collection I purchased in New York as having been received from New Haven, and I have since found two in Indiana.

[No species of the name cited is to be found in Say's writings.—LEC.]

5. *H. TERMINATUS* Say, (*Feronia*) Trans. Amer. Philos. Soc. Dejean, Sp. Gen., refers this species to the present genus. The anterior pairs of the tarsi of the male are clothed with dense hairs beneath.

6. *H. AMPUTATUS*.—Elytra greenish, truncate at tip. Inhabits N. W. Territory.

Body blackish; head with the frontal lines rather slightly indented; antennæ, palpi, tibiæ and tarsi honey-yellow, the tibiæ darkest; thorax with the basal angles rounded; edge obscure rufous; dorsal line [433] obsolete, or slightly impressed; basal lines substituted by dilated, slightly indented spaces, in which are numerous small punctures; posterior lateral margin with small punctures; basal margin obsoletely tinted with greenish; elytra with impunctured striæ, more or less green, sometimes bright green; suture, outer and terminal edges obscure rufous; tip widely and somewhat obliquely truncate.

Length less than two-fifths of an inch.

Var. *a*. Elytra reddish brown, with hardly any tint of green.

Readily distinguished by the truncated appearance of the tip of the elytra, from *H. æneus* F., which has the elytra decidedly sinuate at tip, and even abruptly so.

7. *H. OCREATUS*.—Black green; impunctured; feet pale yellowish.

Inhabits Mexico.

Body very dark green, impunctured; head black, with hardly any appearance of green; antennæ honey-yellow, the joints, excepting the first and second, with darker centres; palpi and base of the mandibles honey-yellow; labrum with a slight projecting angle in the middle of the emargination; thorax blackish green, hardly narrower at base; dorsal line indistinct, but more obvious in the middle; basal indentations dilated not profound; lateral edge dull honey-yellow; posterior angles obtuse; elytra obviously tinged with green; a little wider at base than the thorax; striæ very slender, impunctured; interstitial spaces flat, third space with a puncture at three-fourths the length from the base; lateral edge near the tip and suture near the tip obscurely piceous; tip deeply and rather obtusely sinuous; beneath black, the greenish tinge hardly perceptible; feet yellowish; tarsi rather darker; first joint of the anteriors of the male somewhat smaller than the second; these tarsi have beneath close set hairs.

Length over seven-twentieths of an inch.

This species has almost the *Amara* like form of some species of *Anisodactylus*, in which genus I should have placed the species but for the angle in the emargination of the mentum. It is very closely allied to *terminatus* Say, but is rather more robust, the head and thorax are differently colored, the posterior lateral margin is more depressed, &c. [434] It must resemble closely *H. agilis* Dej., of which it may possibly be a variety.

It was obtained by William Bennett, and presented to me by Mr. Maclure.

STENOLOPHUS Meg., Dej.

S. CINCTUS.—Dark piceous; margin and suture of the elytra honey-yellow; feet pale yellow.

Inhabits Massachusetts.

Body blackish piceous; antennæ fuscous, three basal joints and labrum honey-yellow; mandibles piceous, black at tip; thorax rather convex, a little narrowed behind gradually; base rectilinear, each side a little arquated to the posterior angles, which are obvious but almost rounded; lateral edge but slightly arquated, nearly rectilinear behind the middle, near the posterior angle hardly perceptibly excurved; dorsal line very distinct 1834.]

anterior transverse line distinct, obtusely arquated; basal lines so much dilated as to extend to the lateral angle, including a few sparse, profound punctures; base and tip and exterior edge paler piceous; elytra with impunctured, deeply indented striæ, less profound towards the margin; rudimental striæ none; sutural interstitial space paler piceous; dilated exterior margin honey-yellow; lateral series of punctures, with the exception of a small one, widely interrupted in the middle; feet pale yellow.

Length less than three-twentieths of an inch.

For this insect I am indebted to Dr. Harris. On a cursory examination I considered it identical with *S. ochropezus* Say, notwithstanding its great inferiority of size, which may at once distinguish it. The thoracic posterior angles are much more obtusely rounded in that species, the punctures of the basal lines are much more numerous and extend nearly to the basal middle, the dorsal line is obsolete, &c.

[This is a variety of *Bradycellus rupestris* ante, 505.—LEC.]

ACUPALPUS Latr., Dej.

1. A. PARTIARIUS Say, (Trechus) Trans. Amer. Philos. Soc.—Since described by Dejean under the name of *testaceus*. I have recently received a specimen from Louisiana, for which I am indebted to Mr. J. Barabino. [Ante, 504.] [435]

2. A. CONJUNCTUS Say, (Trechus) Trans. Amer. Philos. Soc.—Since described by Dejean under the name of *misellus*.

3. A. RUPESTRIS Say, (Trechus) Trans. Amer. Philos. Soc.—Since described by Dejean under the name of *tantillus*. [Ante, 505.]

4. A. DEBILIPES.—Piceous black; base of the antennæ and feet pale. yellowish.

Inhabits Indiana.

Body very dark piceous, almost black; head impunctured; between the antennæ on each side a dilated very obvious indentation; antennæ brown, three basal joints yellowish; mandibles at tip black; palpi yellowish, rather pale; thorax widest before the middle, gradually narrowed, by a regular arquation of the edge, to the base; basal angle obtusely rounded; anterior and

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posterior margins on their middles obviously piceous; dorsal line well impressed, very distinct, not abbreviated; anterior transverse line obvious in all its length, arquated; basal lines dilated, orbicular, obvious, with a few, small, sparse punctures within or rather near the base; elytra with slender striæ; interstitial spaces flat, third with a puncture between the middle and tip; marginal and sutural edges towards their tips piceous; rudimental stria none, but instead of it is a puncture at base of the second stria; feet pale yellow.

Length less than three-twentieths of an inch.

[Unknown to me.—LEC.]

5. A. OBSOLETUS.—Dark piceous; striæ of the elytra obsolete.

Inhabits Mexico.

Body dark piceous, impunctured; antennæ, labrum and palpi honey-yellow; thorax with pale piceous anterior and basal margins; lateral margin with eight or nine hairs; dorsal line almost obsolete; basal impressions dilated, oval; elytra with the basal, exterior and apical margins paler piceous; striæ obsolete, excepting the subsutural and lateral ones; a series of large punctures behind the middle of the exterior margin; feet pale honey-yellow.

Length one-fifth of an inch.*

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BEMBIDIUM Latr.

1. B. INÆQUALE Say, Journ. Acad. Nat. Sc. Vol. 3, p. 151.—Very closely allied to *paludosum*, Panz., and may possibly be only a variety of that European species, nevertheless it is somewhat smaller, the thoracic impressed lines are more distinct, particularly the transverse basal one, and the striæ of the elytra are more dilated and the punctures more obvious. As it is the

* Count Dejean has done me the favor to send me the four volumes of his "Species des Coleopteres," which have now been published. This work is indispensable to all those who study the Coleoptera. It contains the descriptions of a great number of North American species, and has greatly facilitated my examination of the insects described in the preceding part of this paper.

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analogue of *paludosum*, it belongs to the genus *Bembidium*, as at present restricted.

2. *B. HONESTUM* Say, Trans. Amer. Philos. Soc.—When describing this species I stated that the elytral striæ are “not obsolete behind.” This may be corrected by substituting the phrase “almost obsolete behind.” The punctures of the striæ are large and obvious at base, but are obsolete, or rather entirely wanting on the posterior third. The exterior margin and epipleura are blackish green.

3. *B. PUNCTATOSTRIATUM* Say, Trans. Amer. Philos. Soc.—The posterior angles of the thorax are very acute; the basal and anterior margins are slightly longitudinally wrinkled, the dorsal line transversely wrinkled on its margins, and the basal lines are obliquely wrinkled; the sides of the thorax are also somewhat undulately wrinkled. The third interstitial space is much wider than the others, and the posterior punctures is much nearer to the anterior puncture than to the tips.

4. *B. LÆVIGATUM* Say, Trans. Amer. Philos. Soc.—The basal thoracic lines are much dilated.

5. *B. COXENDIX* Say, Journ. Acad. Nat. Sc. 3, 151.—Antennæ with three basal joints and base of the fourth pale yellowish; palpi (in the dry state) pale yellowish, dusky at tip; face with an impressed line each side; vertex longitudinally wrinkled; surface somewhat wrinkled transversely and at base longitudinally; basal indentations dilated, minutely rugose; elytra with the anterior and posterior discs obscurely testaceous. I am not so fortunate as to possess definitions of the several genera into which this genus, as originally constructed by Latreille, has been recently divided; but I rather think, by analogy, that the present species is a *Peryphus* Meg.

[This variety, if it be so, was previously described by Dejean as *B. nitidulum*.—LEC.]

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6. *B. DORSALE* Say, Trans. Amer. Philos. Soc.—This species varies considerably. The dorsal line is more or less obvious, and sometimes rather deeply impressed. In one specimen is a slight appearance of puncturing on the middle of the thoracic base. The thorax is more or less engraved with undulated lines, which

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are sometimes almost imperceptible. Perhaps a *Notaphus* of Meg.

7. B. TETRACOLUM Say, Trans. Amer. Philos. Soc.—Allied most closely to *Peryphus rupestris* Illig., than which it is somewhat larger.

8. B. POSTREMUM.—Blackish; elytra brownish, obscure yellowish at tip.

Inhabits Pennsylvania.

Head greenish-black; face with an indented line each side, between which and the eye is a large orbicular puncture; antennæ fuscous, piceous at base; palpi dark honey-yellow; mandibles at base piceous; thorax bronze black, very obscurely piceous on the middle of the anterior margin; contracted behind; posterior angles obtuse angular; dorsal line impressed; anterior transverse very obvious, arquated; basal line dilated, suborbicular; basal margin with slight inequalities or punctures between the basal lines; a slightly elevated line on the lateral margin, forming a groove with the slightly elevated edge, more obvious near the angle, and becoming obsolete before; elytra very dark honey-yellow or brownish, much paler at tip; striæ somewhat dilated, and with dilated, quadrate, profound punctures; striæ more slightly impressed towards the tip, and the punctures obsolete; third interstitial space a little broader than the others, with a puncture before the middle and another equidistant behind the middle, both nearer the third stria; wings perfect; beneath black; abdomen tinged with piceous; feet pale yellowish.

Length one-fifth of an inch.

Resembles *tetracolum* Say, but the elytral striæ are more dilated, the punctures of the third interstitial space are more anterior, and the posterior pale spot of the elytra is quite terminal. Belongs to the genus *Peryphus* Meg.

[Afterwards described as *Peryphus scopulinus* Kirby.—LEC.]

9. B. NIGRUM Say, Trans. Amer. Philos. Soc.—The striæ are so much dilated that no punctures are visible on the third interstitial space.

10. B. SIGILLARE.—Cupreous; elytra with two dilated, subquadrate green spots on each; fourth stria rectilinear.

Inhabits Missouri.

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Body bronzed cupreous, somewhat polished; head greenish each side and before; an impressed line near the eye, between which and the eye is a dilated puncture; antennæ blackish-green, first joint beneath piceous; palpi black piceous, tinged with green; thorax rather broader behind than before; posterior angles acute; lateral edge excurved behind; dorsal line distinct, but not deeply impressed, not abbreviated; basal lines dilated; elytra with punctured striæ, punctures almost obsolete towards the tip; fourth stria not undulated; third interstitial space as broad as the seventh and with two dilated impressed subquadrate spots, green, and including each a puncture, and placed near the middle; beneath dark green; feet blackish green; tibiæ and base of the thighs piceous greenish.

Length less than one-fourth of an inch.

I obtained this species during the journey of Major Long's party to the Rocky Mountains. It is very distinct from the *inequale* Say, which it somewhat resembles by many characters. That of the rectilinear fourth stria of the elytra is an obvious one.

[Apparently not different from *B. punctato-striatum*.—LEC.]

11. *B. SEMIFASCIATUM*.—Greenish-black; elytra each with four spots; third interstitial space two-punctured.

Inhabits Mexico.

Head metallic green; two impressed lines between the antennæ very distinct; antennæ dull piceous; labrum and palpi blackish; thorax metallic green with a slight tinge of cupreous; dorsal line slender; lateral indentation of the base obvious, bounded near the angle by a carinate, abbreviated line; lateral edge with a hair rather before the middle, and another at the posterior angle, not arquated from behind the middle to the basal angle; elytra, blackish, with a slight cupreous tinge, with well impressed punctured striæ, distinct to the tip; interstitial lines depressed, plane; third line with a transverse indentation before the middle and a less distinct one behind the middle; a dull honey-yellow dot on the middle of the base, a semifascia before the middle, another behind the middle, and an irregular apical spot; beneath black; feet piceous.

Length over three-twentieths of an inch.

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Resembles *N. ustulatus* Fabr., and therefore probably is a *Notaphus* Meg.

12. *B. OPPOSITUM* Say.—Resembles the *maculatum* Gyll., and probably [439] belongs to *Lopha*. The sutural stria is impressed from the middle of the tip. It is somewhat bronzed.

13. *B. EPHIPPIATUM*.—Pale testaceous; elytra with punctured striæ and a large common blackish spot.

Inhabits Indiana.

Body pale testaceous or honey-yellow; antennæ paler than the head, a little darker towards the tip; palpi color of the antennæ; thorax widest before the middle, gradually contracting by an almost rectilinear, but hardly perceptible concave line, to the basal angle, which is rectangular; dorsal line but slightly impressed, obsolete before; basal lines hardly distinct from the depressed basal margin, which is minutely wrinkled; elytra with impressed, punctured striæ, obsolete at tip; seventh stria wanting; third interstitial line with two small orbicular punctures, one before the middle and the other a little behind the middle; a very large common blackish spot on the middle, within which the suture is reddish-brown; suture behind the spot blackish; a small, obsolete blackish spot at the base each side of the scutellum; feet pale yellowish.

Length one-tenth of an inch.

At first view it resembles *proximum* Say, both as respects size and color, but it may be distinguished by many characters, of which the punctured striæ is one.

[The type of *Pericompsus* Lec.—LEC.]

14. *B. TRIPUNCTATUM*.—Piceous; elytra with five abbreviated striæ; thorax three-punctured between the dilated basal lines.

Inhabits Indiana.

Body piceous; head and thorax darker; antennæ light brownish, paler at base; palpi pale yellowish; thorax with the dorsal line distinct, terminating on the basal margin in an impressed puncture, on each side of which is another rather smaller puncture; basal lines much dilated, deeply undulating the posterior edge of the thorax; elytra with about five rather obtuse striæ, not extending to the tip or base; sides destitute of striæ
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excepting a marginal interrupted one ; an indentation each side of the scutel and on the humerus.

Length four-fifths of an inch.

The dilated basal thoracic lines deeply indenting the posterior edge, together with the three intervening punctures will readily distinguish [440] this species. At first view it resembles *B. flavicaude* Say, but is more highly polished.

[Belongs to *Tachys*.—LEC.]

15. *B. INCURVUM*.—Piceous ; elytra with a honey-yellow vitta from the humerus, a little dilated at its termination before the tip.

Inhabits Indiana.

Body piceous ; head blackish-piceous ; antennæ honey-yellow ; thorax a little contracted gradually to the base ; dorsal line slender and slightly impressed ; basal transverse line deeply impressed, with numerous minute wrinkles ; basal lines dilated, undulating the posterior edge ; elytra polished, with a profoundly impressed, somewhat dilated, simple, sutural striæ ; the second stria obsolete ; an interrupted stria on the lateral margin ; a dilated indentation each side of the scutel, and a smaller one on the humerus ; a dilated vitta from the humerus, near its tip, curves a little towards the suture ; and is in that part a little more dilated ; venter black piceous ; feet honey-yellow.

Length over four-fiftieths of an inch.

Resembles the preceding, but is destitute of the three punctures at the base of the thorax, and with that species belongs probably to *Peryphus* Meg.

Of the genus *Bembidium* Latr. I have twenty-two described species natives of North America.

[Also a *Tachys*.—LEC.]

DYTISCUS Linn. Latr.

1. *D. CONFLUENS*.—Blackish-brown margined with honey-yellow ; four exterior grooves of the elytra nearly or quite geminately confluent at tip.

Inhabits Maine.

Body blackish-brown with a green reflection, covered above with minute punctures ; head dark green, with a frontal rufous

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semicircle, divaricating at its anterior tips into a more dilated spot between the canthus of the eye and the nasus, which is yellowish, excepting the anterior edge; above the nasus a transverse impressed line, ending each side in a more dilated spot; thorax margined all around with honey-yellow; anterior margin with a somewhat double line, of which the posterior one is obsolete; posterior margin with the yellow color, near the lateral angles, contracted or almost obsolete; elytra with [441] about ten grooves which extend three-fourths the distance to the tip, the four exterior interstitial spaces confluent, or nearly so, by twos; lateral margin not dilated, honey-yellow with an obsolete branch towards the tip, proceeding obliquely to the suture; beneath honey-yellow, sutures more or less margined with black.

Length one inch and a half.

This fine large species was sent me by Dr. E. Holmes of the Gardiner Lyceum, together with many other interesting objects of natural history. It is more than double the size of *D. fasciventris* Say, and may also be distinguished from that species by the confluent termination of the four exterior grooves of the elytra in the female. It is less dilated than the *latissimus* Fabr., and is destitute of the wide elytral margin.

[Afterwards described as *D. Ooligbuki* Kirby.—LEC.]

2. *D. HABILIS*.—Blackish-olivaceous; thorax and elytra margined with yellow; elytra with three series of punctures.

Inhabits Mexico.

Body oval; above with minute, distant punctures; head with a frontal rufous angular line or semicircle, divaricating at its anterior tips into a more dilated spot between the canthus of the eye and the nasus, which is yellow, excepting the anterior edge; above the nasus on each side is an orbicular, punctured indentation; front each side at the eye with an indented, punctured line; thorax with a broad yellow margin; dorsal line acute, distinct, not extending upon the margins; a line of impressed punctures on the anterior margin interrupted in the middle; lateral margin not at all depressed; scutell honey-yellow on the posterior submargin; elytra with three series of impressed punctures; the exterior series less distinct; general puncturation near the tip much larger and more obvious; posterior margin yellowish with 1834.]

an obsolete undulated branch proceeding obliquely towards the tip ; beneath varied with blackish, piceous and yellow.

Length one inch.

A male of this species was taken by William Bennett in the river beyond Vera Cruz, and, together with the two following, presented to me by Mr. William Maclure. It is allied to the *D. marginalis*, F., but that species in form approaches the ovate ; the present also is much smaller and oval. [442]

3. *D. BIMARGINATUS*.—Black ; head and thorax rufous ; elytra with a yellow vitta on the lateral submargin.

Inhabits Louisiana.

Body oval, blackish ; head honey-yellow, posteriorly black ; palpi and antennæ yellowish ; thorax honey-yellow ; posterior margin black, which is more dilated on the middle half ; elytra with three series of distant slight punctures ; on the lateral submargin a yellow vitta, which passes a short distance on the humeral base, and posteriorly diverges a little from the margin, attenuates, and does not reach the tip ; margin and epipleura dull rufous, not reaching the tip ; beneath piceous-black ; pectus and anterior feet yellowish ; terminal joints of the tarsi piceous ; posterior pairs of feet piceous ; intermediate thighs dull yellow ; venter each side with obsolete piceous spots.

Length less than half an inch.

For this species I am indebted to the politeness of Mr. J. Barabino, who sent it to me from New Orleans.

[Afterwards described as *Hydaticus fulvicollis* Aubé.—LEC.]

COLYMBETES Clairv.

1. *C. TÆNIOLIS* Say, (*Dytiscus*) Trans. Amer. Philos. Soc.—In Mexico is a variety, being smaller. The specimen is a male, and proves that the species must be placed in the present genus. It was taken in the river beyond Vera Cruz.

2. *C. GUTTICOLLIS*.—Thorax yellowish with four black spots ; head black, anteriorly and band of the vertex yellow.

Inhabits Mexico.

Head black ; a transverse yellowish band between the nearest points of the eyes ; a dilated yellowish triangle occupying all the anterior part of the head, the apex being at the middle of the

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face; antennæ and palpi honey-yellow, dusky at their tips; thorax honey-yellow, anterior margin blackish; posterior margin dusky; four large black spots in a transverse series, the two intermediate ones nearer together; elytra honey-yellow with minute black points more or less crowded so as to give a dusky, sometimes almost blackish appearance; lateral margin destitute of black punctures, but with a black line on the posterior curvature; at base, particularly the humeral base, destitute of the black punctures; three regular series of small black dots; beneath black; [443] pectus, feet and epipleura yellowish.

Length over two-fifths of an inch.

Taken in the river beyond Vera Cruz.

It is about the size of the *C. adspersus* F., which it considerably resembles, if we except the thoracic black dots.

3. *C. FENESTRALIS* Say, Trans. Amer. Philos. Soc.—Since described by Germar under the name of *biguttulus* Sp. Insect., p. 29.

4. *C. INTERROGATUS* Fabr., Syst. Eleut. *C. venustus* Say, Trans. Amer. Philos. Soc.—When describing this species I stated that it "may probably prove to be the *interrogatus* of Fabricius." Of this I have now so little doubt, that I venture to reject the name I then provisionally gave, and to adopt the true or anterior name. Dejean is also of the opinion that it is the *interrogatus* F. Sturm, however, considers it distinct.

[Ante, 512. Belongs to *Coptotomus*.—LEC.]

COPTOTOMUS Say.

Tarsi distinctly five-jointed; basal joints of the anterior pair of the male subequally dilated or gradually tapering; posterior nails pressed together and apparently single; posterior feet natatory, base of the thighs naked; antennæ eleven-jointed, at least as long as the head and thorax, filiform; scutel distinct; terminal joint of the palpi somewhat compressed at tip and emarginate.

Obs. This genus differs from other genera of this family in the character of the emarginate palpi, excepting the genus *Note-rus*, which is destitute of an apparent scutel and the emargina-
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tion of the palpi is confined to the labial. The name is derived from the words *copto*, I cut, and *tome*, joint or articulation, in allusion to the form of the palpi.

C. SERRIPALPUS,—Yellowish; elytra brownish varied with whitish.

Inhabits Mexico.

Body oblong-oval, honey-yellow; head black on the posterior margin; labial palpi with the penultimate joint crenate or bituberculate before; thorax on the middle of the anterior and posterior margins broadly black; elytra brownish, with very numerous, minute honey-yellow [444] points; two very slightly impressed striae, with punctures hardly distinguishable from minute inequalities of the surface, and an indistinct part of a series of hardly impressed punctures each side; from the base near the scutel proceeds a whitish broad vitta one-fifth of the length of the elytra, bifid at tip; from the humeral base to the tip, proceeds a broad, interrupted and somewhat irregular vitta also whitish; venter piceous.

Length less than three-tenths of an inch.

This insect was obtained on the estate of the Conde del Regla about 10 leagues N. E. of the city of Mexico, by William Bennett, and presented to me by Mr. William Maclure. It cannot be the *Dytiscus circumscriptus*, Germ., which is "breviter ovali."

LACCOPHILUS Leach.

L. MACULOSUS Say, Trans. Amer. Philos. Soc.—Since described, by Germar, also under the name of *maculosus*, Sp. Gen., p. 30.

HYPHYDRUS Latr.

H. PUNCTATUS Say, (Laccophilus) Journal of the Acad. Nat. Science.

[Ante, 1, 178. Belongs to *Hydroporus*.—LEC.]

HYDROPORUS Clairv.

1. H. BIFIDUS.—Elytra with a subsutural, impressed, punctured stria.

Inhabits Mexico.

Body black; head with much dilated indentations between the eyes; a longitudinal honey-yellow line, more dilated before; an-

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tennæ yellowish, dusky at tip ; thorax with a submarginal honey-yellow band before having three processes, one in the middle, and one, rather more dilated, on the lateral margin, not reaching the posterior edge ; elytra with a very distinct, punctured, impressed, subsutural stria, and about two other hardly obvious ones near the middle : bifid yellowish lines at base near the tip ; feet dark honey-yellow.

Length less than one-fifth of an inch.

This species and the two following were taken by William Bennett in a small river beyond Vera Cruz, and were presented to me by Mr. MacIure.

2. *H. NUDATUS*.^②—Beneath black ; feet yellowish ; thorax and head [445] on their disks yellowish ; elytra blackish with lines and tip yellowish.

Inhabits Mexico.

Head with numerous deep punctures, honey-yellow on the disk, blackish each side and behind ; antennæ pale yellowish, dusky at tip ; thorax with numerous deep punctures, more dense and obvious towards the base, honey-yellow, anterior and posterior margins dusky ; elytra brownish black, with numerous, profound, approximate punctures ; striæ not distinct, but traces of two may be discovered near the base ; about four more or less confluent lines at base, irregular ones each side and tip dull whitish-yellow ; beneath black, pectus yellow ; feet honey-yellow.

Length over three-twentieths of an inch.

3. *H. SERICATUS*.^②—Yellowish ; elytra blackish with abbreviated lines and margin dull yellowish.

Inhabits Mexico.

Dull honey-yellow, somewhat sericeous above ; head with a dilated, not profound, indentation each side, and numerous small punctures ; antennæ also honey-yellow ; thorax a little dusky on the anterior and posterior margins, with numerous, small, slightly impressed punctures ; elytra dark brownish, almost black, more obviously sericeous than the thorax ; striæ none ; lateral margin dull honey, dilated near the base into a band of about four abbreviated, unequal, longitudinal lines, excepting the inner one, not reaching the base, another somewhat similar band behind the middle and slight double dilatation at tip of the same color.

Length less than one-fifth of an inch.

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This species was obtained in the same locality with the preceding. It is closely allied to *undulatus* Say, but is more sericeous, the elytral lines are not so dilated or confluent, &c.

4. *H. INTERRUPTUS*.^①—Black; feet, frontal line, three thoracic spots, and many elytral abbreviated lines yellowish.

Inhabits Pennsylvania.

Body blackish; head with a slight piceous tinge; an anterior honey-yellow triangular spot, the superior angle near the vertex; antennæ pale yellow, dusky at tip; thorax obsoletely tinged with piceous; a lateral irregular spot, and a dorsal, longitudinal, somewhat fusiform one, honey-yellow; elytra with an oblique impressed line at the inner angles, a slightly impressed subsutural striæ, and an obsolete one on each side of the middle; lateral margin with two slender oblique branches before [446] the middle, slender subsutural vitta exterior to the stria, interrupted line or two along the middle, a small spot behind near the middle and about two transverse series or two or three short lines, dull honey-yellow; beneath black; pectus, feet and epipleura yellowish.

Length over three-twentieths of an inch.

[Ante, 99, 916. Identical with *H. parallelus* and *H. catascepium*.^②—LEC.]

5. *H. DISCICOLLIS*.^③—Reddish brown, somewhat sericeous, minutely punctured, middle of the thorax without punctures.

Inhabits North-west Territory.

Body entirely dark reddish brown, with minute punctures; head ———; thorax with the disk impunctured, polished and a little more convex; elytra darker than the thorax, more obviously sericeous; lateral margin a little paler; spot at the tip dull yellowish; postpectus black piceous.

Length three-twentieths of an inch.

I obtained an individual of this species during Long's Expedition to the source of St. Peter's river, and although it is now mutilated, yet I have no hesitation in giving it as distinct from any other I am acquainted with.

[Dr. Harris regarded this as the species afterwards described as *H. dichrous* Mels.; the description seems to me too indefinite for accurate determination.—Lec.]

HALIPLUS Latr.

H. 12-PUNCTATUS Say.—Some specimens were found in Mexico, in the locality above mentioned, by William Bennett, and presented to me by Mr. William Maclure. They vary a little from those of this region in being very slightly more elongated and larger; but the spots, their arrangement and the sculpture, appear to be precisely the same. The species is therefore found over the greater part of North America east of the Rocky Mountains.

NOTERUS Latr.

N. BICOLOR.—Honey-yellow; elytra black, punctured.

Inhabits Louisiana.

Head and thorax honey-yellow; eyes black; palpi not deeply emarginate; elytra black, punctured; at tip obsoletely piceous, very obliquely and slightly truncate; acute; beneath honey-yellow, or piceous.

Length one-tenth of an inch.

For this species I am indebted to Mr. Barabino.

[Afterwards described as *Suphis gibbulus* Aubé.—LEC.]

HYDROCANTHUS Say.

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H. ATRIPENNIS.—Ferruginous; black.

Inhabits Mexico.

Head and thorax ferruginous; the former with an oblong triangular, obsolete, darker spot between the eyes, and the latter with an impressed line on the lateral submargin; elytra blue-black, immaculate, impunctured; pectus, as well as the head beneath, dull yellowish; sternum flat, at its anterior tip acute, but not prominent, dusky; postpectus blackish, dull yellow at tip; feet, intermediate and posterior pairs blackish, slightly varied with piceous.

Length less than one-fifth of an inch.

This is the second species of this genus; the first I published in the Trans. Amer. Philos. Soc. vol. 2, new series. The genus is allied to *Noterus* Latr., but the labial palpi are much more dilated, and have no appearance of emargination.

GYRINUS Linn.

1. *G. EMARGINATUS* Say, Trans. Amer. Philos. Soc.—Since described by Germar under the name of *vittatus*, Spec. Nov.

2. *G. ANALIS* Say, Trans. Amer. Philos. Soc.—Germar is of opinion that this is the same as *natator* F.; but on comparison, I find it to differ in many small characters, the most obvious one of which is the color of the epipleura, that of the *natator* being light-piceous, whilst in the *analis* it is of a bronzed black, &c. It is no doubt a closely allied species.

3. *G. OBTUSUS*.—Black; feet honey-yellow; behind obtuse.

Inhabits Mexico.

Body black, polished; head with two indented dots between the eyes; mouth piceous; antennæ piceous-black; thorax with the anterior lateral, posterior lateral and medial impressed lines very distinct; elytra obtuse behind and widely truncate; near the tip obviously depressed; punctures well impressed, in regular series, the intervals not impressed; beneath dark piceous, somewhat paler on the edges of the segments; feet and tip of the venter honey-yellow.

Length over one-fifth of an inch.

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It may be distinguished from the *analis* and *limbatus* nob., and from the *natator* Fabr., and *marinus* Gyl., in being more obtuse behind and the consequent greater truncation of the elytra.

4. *G. PARCUS*.—Black; feet honey-yellow.

Inhabits Mexico.

Body rather robust, black, highly polished; head with two indented, oblique lines between and before the eyes: thorax with the impressed lines very obvious; elytra with very distinct, well impressed series of punctures, the intervals not at all impressed; tips obtusely rounded; feet honey-yellow.

Length nearly one-fifth of an inch.

In comparison with *minutus* Fabr. this species is a little longer and much more robust, more highly polished, and the impressed lines of the thorax and dots of the elytra are more profound and distinct. It is somewhat smaller than either of those I have before described, and the punctures of the elytra are, notwithstanding, larger.

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STAPHYLINUS Linn. Grav.

1. *S. EPHIPIATUS*.—Black; elytra rufous.

Inhabits Mexico.

Body black, polished; head with a longitudinal, impressed line between the eyes; superior orbits with three or four punctures, above these a lateral series of four or five punctures, and two or three insulated ones, and at base each side a transverse series of four or five punctures; antennæ, terminal joint obliquely truncate; thorax semioval with a few scattered punctures each side, an abbreviated dorsal series of four or five punctures not extending on the posterior third of the length of the thorax; scutellum densely punctured, black; elytra cinnamon-rufous, with very numerous small hairs and slightly impressed punctures; tergum a little hairy, deep blackish-blue, iridescent; palpi piceous.

Length over half an inch.

This and the following species belong to Family 1st of Gravenh. Monogr.

[A species of *Belonuchus*, which I found at San Diego, California, under dead *Opuntia* leaves.—LEC.]

2. *S. CONNEXUS*.—Black; elytra and feet rufous.

Inhabits Mexico.

Body black, polished; head with punctured orbits and a few scattered punctures each side; palpi piceous black; a deep and wide indentation between the antennæ, on each side of which above is a single puncture; thorax with a series of about five large dorsal punctures [449] and a few scattered lateral ones; antennæ cinnamon rufous, with very short hair and minute punctures; feet color of the elytra.

Length over three-tenths of an inch.

Resembles the preceding, but the feet are rufous, and the tergum is simply black; the clypeus is a little advanced in the middle. Fam. 1st.

3. *S. IRACUNDUS*.—Black; elytra rufous; dorsal thoracic punctures three.

Inhabits Indiana.

Head with an orbital puncture and three occipital punctures, of 1834.]

which the anterior one is near the eye and larger; antennæ piceous; flagellum fuscous; the joints a little broader than long; terminal joint with the apex rather prominent; mouth dull piceous; occiput with numerous small punctures; thorax with three small dorsal punctures, not reaching the middle of the length; lateral punctures about five, the second and fifth placed a little above the straight line; marginal punctures two or three; towards the anterior angles are numerous obsolete discoidal punctures, visible with a strong power; scutel glabrous, black; elytra rufous, densely punctured, with short prostrate hairs; tergum at tips slightly tinged with piceous; tibiæ, tarsi and posterior margins of the ventral segments piceous.

Length over seven-twentieths of an inch.

This species seems to have some relation to the *laticollis* Grav., but the thorax is less dilated, the lateral puncturations are much more numerous; the elytra are of a different color, &c. Fam. 1st.

[Belongs to *Quedius*, considered by Erichson as a variety of *Q. fulgidus*.—LEC.]

4. *S. BLANDUS* Grav.—The reddish color of this handsome insect is of a tint approaching sanguineous.

Gravenhorst had probably old specimens, of which the color had faded. He describes the feet as "*rufo testacei*," but in my specimens the tibiæ and tarsi are piceous. He says "*coleoptera depilia*," but my specimens certainly have prostrate hairs on the elytra as well as on the scutel. If this is not in reality Gravenhorst's species, it differs in the exceptions I have stated, and can be called *lætulus*. Fam. 1st.

[Belongs to *Philonthus*.—LEC.]

5. *S. INVERSUS*.—Black; dorsal thoracic punctures three.

Inhabits Indiana.

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Head with an orbital puncture, and another above the eye; mouth and antennæ piceous; joints of the flagellum rather transverse, point of the last joint not prominent; thorax a little narrowed before; dorsal punctures three, the series nearer each other at tip than near the head and hardly reaching the middle of the length; lateral two remote, with a single puncture midway between the second and the dorsal series; marginal one; scutel glabrous, impunctured; elytra on the disk with but very few hairs;

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punctures few, distant, almost to be traced into obsolete series; laterally with small punctures, furnishing short hairs; tergum in some lights slightly iridescent towards the tip; beneath very obscurely piceous; feet piceous.

Length nearly three-tenths of an inch.

The two dorsal series of punctures in other species diverge a little posteriorly, but in the present species they evidently approach towards their posterior termination. Fam. 1st.

[Considered by Erichson as *Quedius capucinus*.—LEC.]

6. *S. DIMIDIATUS*.—Blackish; elytra and margins of abdominal segments reddish-brown; feet pale.

Inhabits United States.

Body piceous black; head oval black, with two punctures between the eyes, two punctures on the posterior canthus and five or six behind; mouth piceous; antennæ, first and second joints and part of the third yellowish, or reddish-brown, more or less pale; thorax black, with a tinge of piceous; dorsal series five, and an equal puncture more distant than the others, near the anterior margin, and a little exterior to the line of the series; lateral punctures two, or in a much curved line three; marginal two; elytra reddish-brown, with prostrate hairs; abdomen, segments reddish-brown on their posterior margins; feet yellowish, or pale reddish-brown.

Length nearly one-fifth of an inch.

I have found specimens in Pennsylvania and Missouri. The reddish-brown color of the posterior margins of the abdomen is obvious beneath. Fam. 1st.

[A *Philonthus*, probably the same as the European *P. ventralis*.—LEC.]

7. *S. TACHINIFORMIS*.—Black; thorax sanguineous; feet piceous.

Inhabits Mexico.

Body black; head rather small, oval, polished; with two punctures [451] each side between the eyes, and eight or ten behind the eyes; antennæ fuscous, dark piceous at base; mouth piceous; thorax sanguineous; dorsal punctures five, distant from the base and tip; lateral two; marginal three, placed triangularly; elytra with a slight, obscure metallic tinge, with numerous minute punctures. 1834.]

tures furnishing prostrate hairs; feet honey-yellow; posterior pair and tibiæ and tarsi darker.

Length one-fourth of an inch. Fam. 1st.

8. *S. APICIALIS*.—Black; terminal joint of the antennæ and abdomen towards the tip, rufous.

Inhabits the United States.

Body black, polished, punctured; head with numerous punctures, smooth in the middle; antennæ with the terminal joint yellowish-rufous; mandibles piceous; palpi with the terminal joint rather long, slender, piceous; thorax with numerous not crowded punctures, with a longitudinal, dilated, glabrous line; scutel, punctures minute, dense; elytra with a subsutural line and numerous small punctures furnishing hairs; abdomen towards the tip dull rufous; feet piceous-black.

Length nearly two-fifths of an inch. Fam. 3d.

[Afterwards described as *Philonthus hæmaturus* Er.—LEC.]

9. *S. CYANIPENNIS* Fabr.—The allied species of the United States was considered by Gravenhorst as a variety only of the European species. I have not at present in my collection the true *cyanipennis* of Europe to compare, but as Gravenhorst mentions a difference in the size of the head, it may yet prove to be a distinct species, and, if so, the name proposed by Knoch, *S. cyanopterus*, will be an appropriate one. Fam 1st.

[Also a *Philonthus*.—LEC.]

10. *S. VIDUATUS* F.—This name has the priority over that of *maculosus* Grav. Belongs to Family 4. It is singular that Gravenhorst, in his revised work the "Monographia," quotes the proper name of this insect and yet retains the synonym of *maculosus* as the true name, although it was given by himself a year after the Fabrician name.

11. *S. VIOLACEUS* Grav.—This species is subject to vary considerably; the "linea media longitudinali lævi" of the head is very commonly obliterated by punctures, and there exists a variety, of which the elytra are tinged with greenish, or are dusky brassy.

Belongs to Fam. 3.

12. *S. UMBRATILIS* Grav.—My specimens, five in number, have about [452] five punctures in the dorsal series, neither of

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them has four only as stated in the description. Belongs to Fam. 1st.

13. *S. ATER* Grav.—In my cabinet I find that I formerly placed this species under the genus *Astrapæus* Grav., from the circumstance that the terminal joints of the palpi are more dilated than in any other species of *Staphylinus*, that I am acquainted with. The terminal joint of the maxillary palpi, is not longer than the penultimate one, and the diameter is nearly, if not quite as great; the terminal joint of the labial palpi is very obviously, dilated, oval, and its transverse diameter is nearly double that of the last joint of the maxillaries. Still, however, as neither of these joints can be called securiform, agreeably to the essential characters of *Astrapæus*, we must agree with Gravenhorst, and return the species to his third family of *Staphylinus*, from which it certainly differs in the characters above stated.

[Belongs to *Ocypus*.—LEC.]

XANTHOLINUS Dahl.

1. *X. EMMESUS* Grav., Coleopt. Micropt. 176, belongs to this genus. It is subject to vary in its coloring; the abdomen is often piceous, and sometimes even still paler.

2. *X. CEPHALUS*.—Black; antennæ reddish-brown; elytra and feet honey-yellow.

Inhabits Virginia.

Body black, polished; head elongated, sides parallel, punctured; punctures numerous and larger each side, excepting immediately the line behind the eye obsolete on the longitudinal middle; a larger puncture each side at base; and a slight longitudinal indentation on the basal margin; thorax as wide as the head anteriorly, becoming gradually a little narrower to the base; a dorsal series of five or six punctures; lateral four or five punctures; on the anterior termination of this series a much dilated slight indentation; marginal puncture one; basal edge each side and lateral edge with a series of punctures; elytra honey-yellow, irregularly not profoundly punctured; pectus rufous; feet honey-yellow; abdomen piceous black.

Length one-fourth of an inch.

1834.]

The head is large, longer than the thorax. I obtained it on Chinquoteage Island.

[Afterwards described as *Gyrohypnus assimilis* Kirby, *G. consentaneus* Nordmann: *X. Kiesenwetteri* Sachse, Ent. Zeit. 1852, 126 does not appear to differ.—LEC.] [453]

3. *X. HAMATUS*.—Piceous; antennæ, elytra and feet yellowish. Inhabits the United States.

Head piceous-black, ovate, with sparse, profound punctures, wanting on the longitudinal middle, and immediately in a line behind the eye; antennæ reddish-brown, paler at base; palpi pale reddish-brown; thorax rufo-piceous, not distinctly contracted behind; dorsal punctures about ten, with an anterior, nearly parallel, exterior series of about four; lateral series ten or twelve punctured, extending to the locality of the posterior angle, and at its anterior extremity curved outward and backward with four or five additional punctures; elytra honey-yellow, sparsely and irregularly punctured; a somewhat elevated line on the sutural submargin; feet dark honey-yellow.

Length about one-fourth of an inch.

Remarkable for the number of punctures in the thoracic series. [Afterwards described by Erichson as *X. obscurus*.—LEC.]

LATHROBIUM Grav.

1. *L. SIMILIPENNE*.—Black; members rufous or yellowish. Inhabits Mexico.

Body black, polished, hairy, densely punctured; antennæ reddish-brown, first and second joints rufous; labrum and palpi piceous; thorax longer than broad, with a longitudinal glabrous line in the middle and, a glabrous basal margin; elytra, terminal edge piceous; tergum with more minute punctures; more hairy at tip; feet honey yellow; thighs pale yellow.

Length two-fifths of an inch.

Like most of the species of this genus, the middle of the thorax is destitute of punctures; in this character it also agrees with *Staphylinus violaceus* Grav.

2. *L. ARMATUM*.—Anterior thighs dilated and angulated beneath.

Inhabits Indiana.

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Body black, punctured; antennæ piceous; first joint obconic, not longer than the second and third together, which are equal; 4-10 joints moniliform; last joint ovate acute; palpi pale piceous; terminal joint minute, that of the labial longer; thorax oblong-quadrate; angles rounded; glabrous line none; elytra black-piceous, punctures not [454] deeply impressed; sutural striæ distinct; feet rufous; thighs robust, particularly the anterior, which have a prominent angle beneath near the tip; tibiæ a little dilated and compressed, obliquely truncate at tip; anterior pair with an obtuse sinus on the inner side; tarsi, first joint not longer than the second; penultimate joint a little lobed beneath.

Length about seven-twentieths of an inch.

I have obtained but one specimen, which is a male. The above description will show that it differs much from any known species.

[Unknown to me.—LEC.]

3. *L. CINCRUM*.—Black, punctured; antennæ and mouth piceous; feet yellowish; posterior margins of the segments of the abdomen rufous.

Inhabits Missouri.

Body black, punctured, hairy; head above, punctures dense, distinct, profound, furnishing hair; on the front sparse, remote; antennæ pale piceous, first joint nearly one third of the entire length, third joint rather longer than the second and with the others obconic, two terminal ones subglobular; labrum very short at tip, punctured and setous, emarginate in the middle; mandibles piceous, prominent, strongly dentate in the middle; palpi, maxillary prominent, pale piceous, terminal joint conic acute, as large at base as the preceding joint, labial pale testaceous, minute, throat with an impressed convex line; thorax oblong, not wider than the head, punctures numerous, profound, furnishing hairs, angles rounded; scutellum impunctured, elytra, punctures somewhat transversely confluent, a little hairy; feet testaceous, thighs paler, anterior thighs near the tip abruptly narrowed beneath, coxæ piceous; pectus impunctured; postpectus and abdomen densely and minutely punctured, punctures hairy; segments of the latter with rufo-ferruginous posterior margins.

Length less than two-fifths of an inch.

1834.]

Found near Engineer Cantonment on the Missouri.

[Afterwards described as *Cryptobium latebricola* Nordm.—LEC.]

4. *L. BICOLOR* Grav.—This is an abundant species, and widely distributed. Nuttall gave me a specimen which he found in Arkansas; I have taken them in Missouri, Pennsylvania, and very commonly in this State. It varies considerably in its shades of coloring. I have an individual of which the thorax is pale yellow.

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[Belongs to *Cryptobium*.—LEC.]

5. *L. DIMIDIATUM*.—Black; thorax and posterior half of the elytra rufous.

Inhabits the United States.

Black; head with scattered punctures; antennæ fuscous; first and second joints and palpi honey-yellow; thorax bright rufous, with a dorsal hardly regular stria of seven or eight punctures, the stria somewhat impressed towards the base; lateral punctures many, not crowded; elytra with one or two hardly regular striæ of punctures and lateral scattered punctures; an indented sub-sutural line; bright rufous, the basal half black; tergum piceous black; segments dull rufous on their posterior margins; feet pale yellow.

Length three-twentieths of an inch.

Var. *a*. Punctures of the thorax a little more regular and numerous; black portion of the elytra confined to the basal margin and sometimes obsolete.

Punctured somewhat like *longiusculum* Grav., but is much smaller and differently colored.

6. *L. SPHÆRICOLLE*.—Blackish; thorax orbicular, convex; antennæ long.

Inhabits Indiana.

Body black piceous; head with the carina of the antennæ a little elevated, abrupt before; antennæ much thicker towards the tip, rather longer than to the base of the thorax, first joint hardly longer than the second and third together; fuscous, three basal joints honey-yellow, fourth and terminal joints obscure honey-yellow; larger joints hardly longer than broad, mandibles

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bifid at tip, and with the palpi piceous; neck distinct; thorax nearly orbicular, a little wider before the middle and narrower behind; convex, with sparse black hairs; elytra with scattered upright hairs; subsutural striæ deeply indented, particularly towards the base; tip truncate, not sinuate; taken together, transverse quadrate; tergum black; feet yellowish; thighs towards the tip piceous.

Length over one-tenth of an inch.

The labrum is longitudinally indented in the middle, and at tip is widely, but not very deeply emarginate. The habit differs from that of most of the species, and it cannot be, rigidly speaking, congeneric with *bicolor* and *pallipes* Grav. [456]

[Belongs to *Apocellus*.—LEC.]

It varies in having the feet entirely yellowish and the tips of the carinæ of the head honey-yellow.

7. *L. MILLEPUNCTATUM*.—Piceous; with dense, minute punctures; thorax with a glabrous line, rounded behind.

Inhabits Indiana.

Body dull piceous, with very minute, crowded punctures and small hairs; head larger than the thorax, black piceous, quadrate, almost lobed at the posterior angles; antennæ and mouth paler, rufous; thorax, as in *Staphylinus*, rounded behind and truncate before; a dorsal, slender, glabrous line; elytra paler on the humerus; tergum dark piceous, posterior margins of the segments and lateral margin paler; beneath honey-yellow, head rufous.

Length less than one-fourth of an inch.

The form of the thorax and head is that of a *Staphylinus*; which, together with the dense and minute puncturing, distinguish this species very readily from others.

[Belongs to *Lithocharis*, and previously described as *Pæderus corticinus* Grav.—LEC.]

8. *L. CONFLUENTUM* [CONFLUENS].—Piceous; densely punctured; thorax short, rounded behind and angulated before each side; head large.

Inhabits the United States.

Body piceous; head with close set, discoidal punctures; large, ovate or subquadrate; tips of the carinæ of the antennæ, base of 1834.]

the antennæ and palpi paler; palpi with the terminal joint very small; antennæ towards the tip moniliform; thorax much smaller than the head, paler on the lateral and posterior margins; punctures confluent longitudinally; anterior margin with a short, abrupt neck; anterior angles angulated; behind rounded; elytra with small, irregular punctures, furnishing short hairs, almost obsolete at tip; tip paler; feet honey-yellow.

Length less than three-twentieths of an inch.

I obtained a few specimens at Chincoteague Island, in dung, October; and one in Indiana.

[Also a *Lithocharis*.—LEC.]

PINOPHILUS Grav.

P. LATIPES Grav.—In his last work this author abolishes this genus and unites the species with *Lathobium*. But I think with Latreille, that it must be a distinct genus. [457]

PÆDERUS Fabr.

1. *P. DISCOPUNCTATUS*.—Yellowish; abdomen black at tip.

Inhabits the United States.

Body elongated, dull honey-yellow, punctured; head with close set, discoidal punctures; subquadrate, obtuse before; antennæ and palpi paler than the head; thorax with discoidal punctures; which are close set and like those of the head with a central point; oval, rather smaller than the head; edges a little darker; elytra a little paler than the head and thorax, with dense, transversely somewhat confluent punctures; abdomen dark honey-yellow, black at tip; feet color of the elytra.

Length less than three-twentieths of an inch.

Resembles *P. binotatus* Say, but may be distinguished at first sight by the more obtuse anterior termination of the head, and by the absence of the elytral spots, which mark that species.

[Belongs to *Sunius*, and was previously described as *Pæderus longiusculus* Mann.—LEC.]

2. *P. CINCTUS*.—Black; tips of the elytra obscure rufous.

Inhabits the United States.

Body elongated, black with a slight tinge of piceous, and with discoidal punctures; head obtuse before; antennæ and palpi

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honey-yellow; thorax somewhat smaller than the head, a little obovate, obscurely rufous behind; elytra obscure rufous at tip; tergum, posterior margins of the segments dull rufous; feet pale honey-yellow.

Length nearly three-twentieths of an inch.

Resembles the preceding in form, and in the obtuse anterior termination of the head.

[Probably the same with *Sunius prolixus* Er.—LEC.]

RUGILUS Leach.

R. DENTATUS.—Black; feet pale; elytra dull rufous at tip.

Inhabits United States.

Body piceous black; head longitudinally wrinkled; antennæ and palpi piceous; labrum large, bidentate in the middle, piceous, rounded each side; thorax smaller than the head, longitudinally wrinkled, convex, with a longitudinal, glabrous line; elytra with numerous, minute, hairy punctures; a subsutural impressed line; posterior margin dull [458] rufous, or yellowish; feet pale yellowish.

Length over three-twentieths of an inch.

Var. a. Posterior margin nearly black towards the suture; glabrous thoracic line almost obsolete.

Much smaller than *R. orbiculatus* Payk., and the wrinkles of the head and thorax are larger and more obvious.

[Belongs to *Stilicis*.—LEC.]

STENUS Latr.

1. *S. GENICULATUS*.—Black; antennæ and feet whitish.

Inhabits United States.

Body black, with a very slight cinereous tinge; deeply punctured; head with a wide, but not very deep indentation each side of the middle; profoundly punctured; antennæ whitish; anterior part of the head with short whitish hairs; thorax punctured like the head; elytra also with profound punctures; tergum a deeper black than the elytra; segments with large punctures at base and small ones towards the tip; feet yellowish-white; posterior knees blackish.

Length less than one-fifth of an inch.

1834.]

This has been supposed to be the same as the *fuscipes* Grav., but it is much larger, with pale feet, &c.

[The name being preoccupied was changed by Erichson to *S. flavicornis*.—LEC.]

2. *S. COLON*.—Black; elytra with a rufous dot; feet pale beneath.

Inhabits Indiana.

Body black, with large, dense, not very profound punctures; elytra with the punctures towards the suture longitudinally confluent; a sublunate or triangular, dull rufous spot rather behind the middle of each elytrum; tergum with the punctures not smaller at the posterior margins of the segments; feet dirty yellowish; thighs blackish above.

Length over three-twentieths of an inch.

Much like *S. biguttatus* Linn., but is much smaller, and the spot of the elytra is placed rather more outward and backward, and is more triangular and emarginate before.

3. *S. STYGICUS*.—Grayish black, immaculate.

Inhabits Missouri.

Body black, with a slight tint of gray; punctures dense, with short, prostrate hairs; head obtusely indented each side between the eyes; [459] thorax broadest a little before the middle; elytra, region of the scutel indented; tergum of a more unmixed black than the anterior part of the body; feet immaculate.

Length nearly three-twentieths of an inch.

Resembles *bupthalmus* Sch., but may be distinguished by the more obvious indentations of the head.

4. *S. FEMORATUS*.—Grayish black; thighs rufous.

Inhabits Pennsylvania.

Body black with a slight tinge of gray; punctures dense, with short, prostrate hairs; head obtusely indented each side between the eyes; thorax broadest rather before the middle, contracted behind; a slight appearance of indentation behind the middle; elytra, region of the scutel a little indented; tergum of a more unmixed black than the other part of the body; anterior thighs rufous, black at the knee; posterior thighs obscure rufous.

Length less than three-twentieths of an inch.

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5. *S. QUADRIPUNCTATUS*.—Black, punctured; thorax hexagonal, inequal.

Inhabits Missouri.

Body deep black, immaculate, profoundly and densely punctured; mouth testaceous; palpi black; thorax hexagonal, the lateral edge projecting into an angle in the middle, disk with four dilated, indented spots, placed in quincunx, with a slightly elevated line between them, one or two obsolete, indented spots near the lateral angle; abdomen, pectus and postpectus impunctured, the former with short hairs; feet piceous.

Length more than one-tenth of an inch.

Found at Engineer Cantonment. It has a somewhat different aspect from the preceding species. The eyes are not quite so large, and the three last joints of the antennæ are not so remarkably larger than the others.

OXYPORUS Fabr.

O. STYGICUS.—Black; tarsi rufous.

Inhabits Indiana.

Body black, polished; antennæ 2-5 joints rufous; labrum rufous; palpi honey-yellow; thorax with the lateral deflected margin indented; [460] elytra entirely black; a subsutural striæ, and an abbreviated one on the middle, near which is another obsolete one, and many rather large distant punctures; exterior margin impunctured; feet blackish piceous; tarsi pale rufous.

Length three-tenths of an inch.

The thorax is somewhat longer than that of *cinctus* Grav., and the punctures of the elytra are more numerous.

OXYTELUS Grav.

1. *O. SCULPTUS*.—Blackish; five lined; elytral rufous; feet pale.

Inhabits Pennsylvania.

Body piceous-black, punctured; head indented, with numerous, small punctures above; mouth piceous; antennæ fuscous, piceous at base; thorax with five grooves, of which the exterior ones are dilated and not deeply impressed; densely punctured; anterior angles not acute; elytra dull rufous, with small hairy punctures; a subsutural impressed line and another from the 1834.]

humerus not reaching the tip; tergum black with a piceous tinge; feet yellowish-white; tibiæ and tarsi a little darker.

Length over three-twentieths of an inch.

Gravenhorst considered this insect as specifically identical with his *piceus*, but in his remarks on that species he states that "huic Oxytelo alius affinis est, quam D. Prof. Knoch *O. sculptus* nuncupavit. Differt thorace lateribus subrotundatis, basin versus paulo angustiore, coleoptris brevioribus et paulo angustioribus, fusco seu rufo; coleoptris quadratis, rufescentibus seu piceo-rufo." These differences of character indicate a difference of species. It is the *Aleochara sculpta* of Melsheimer's Catalogue.

2. *O. RUGULOSUS*.—Black; longitudinally wrinkled; elytra obscure piceous.

Inhabits Mexico.

Body black, rather short, with numerous punctures, somewhat confluent into longitudinal wrinkles; head with three grooves, rather slightly impressed, the lateral ones dilated; antennæ brown, dull honey-yellow at base; palpi dull honey-yellow; thorax with three grooves, of which the middle one is wider before and the lateral ones wider behind; each side a little concave, the edge slightly reflected: anterior [461] angles acute; lateral edge arcuated; rounded behind; elytra transverse quadrate, blackish piceous; tergum with dense minute punctures; feet honey-yellow.

Length less than one-tenth of an inch.

This does not altogether agree with the var. *a.* of the *carinatus* of Gravenhorst, and to which he has given the name of *insignitus*. The present species is proportionally much shorter than the *carinatus*. It is not more than half the length of that species. It is more than probable that the *insignitus* is also a distinct species.

I obtained three specimens of the *rugulosus* in Mexico.

[According to Erichson is the European *O. nitidulus*.—LEC.]

3. *O. CORDATUS*.—Black; elytra whitish, with a common brown spot.

Inhabits Virginia.

Body black, with numerous small punctures; mandibles pice-

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ous; antennæ pale, towards the tip brownish; thorax, angles almost rounded; elytra yellowish white, with a common fuliginous disk; feet yellowish white; tibiæ and tarsi darker.

Length three-twentieths of an inch.

This occurred extremely numerous, in October, under the surface of the sand in flat places on the sea beach, over which the high tides flow. When the water subsides, their labors become visible. They proceed forwards a little beneath the surface in a very irregular line, casting up the sand so as to resemble a miniature mole tunnel.

On the wet or partially dry plain, their tunnels, though very small, are yet very striking to the eye, in consequence of their great abundance, and being drier and whiter than the general surface. They appear to be in search of the various minute crustaceous animals, that take refuge in the sand on the recession of the waters.

[Belongs to *Bledius*.—Lec.]

4. *O. EMARGINATUS*.—Black; elytra whitish with a fuliginous suture.

Inhabits Indiana.

Body black, punctured; head with numerous, but not crowded punctures; two longitudinal indentations between the antennæ; antennæ, mandibles and palpi honey-yellow; thorax with a piceous tinge, rounded behind; with rather sparse, well defined punctures, and an obvious, impressed, dorsal line; elytra with separate punctures and a much dilated, common, fuliginous vitta; sutural tip very obtusely [462] rounded; feet honey-yellow; thighs and coxæ whitish.

Length less than one-tenth of an inch.

The obtusely rounded sutural tip of the elytra, gives this part, in repose, a profoundly emarginated appearance.

[Also a *Bledius*.—LEC.]

MOLOSOMA Say.

Labrum entire; palpi filiform, terminal joint of the maxillaries much longer than the second, slightly attenuate to the tip; antennæ before the eyes, inserted under the margin, gradually thicker at tip, four last joints larger; body cylindric; thorax

truncate at base ; abdomen with the penultimate segment longest ; tibiæ spinous, a little arquated.

M. LATIPES Grav. Monog. Coleopt. Micr., p. 198.

In the present state of the science, the *latipes* can no longer remain in the genus *Oxytelus*, as a species of which Gravenhorst described it. That author was, however, perfectly sensible of its distinguishing characters, and had he written twenty years later, I should not now have to construct this new genus. The following are his remarks adjoined to his copious description, to which I must refer the reader :

“ Cum hoc insectum palpis instructum sit filiformibus, antennis extrorsum crassioribus, thorace immarginato basi truncato, Tachinis adnumerandum foret, si solos characteres artificiales (Coleopt. Micropt., p. 134) datos respiceremus. Habitu autem toto, et exceptis ultimis palporum articulis, partibus etiam singulis cum *Oxytelis* hujus familiæ plane congruit. Certo systematis naturalis nullam haberemus rationem, cum hoc micropteron Tachinis adjungeremus. *Oxytelis* autem, sicut huc usque determinati erant, ob characteres per systema artificiale constitutos, haud adsociari potest. Eodem ergo jure, quo *Astrapæi* genus olim a *Staphylino* disjungebatur, quibus attamen simillimum est, hoc etiam insectum genus novum, ab *Oxytelis* separatum, conderet, nisi regula systematis naturalis, i. e. character totus externus seu habitus totus, dissuaderet.”

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[This genus was previously described as *Osorius* Latr.—LEC.]

ANTHOPHAGUS Grav.

A. VERTICALIS.—Body reddish brown ; elytra and margin of the tergum yellowish.

Inhabits Pennsylvania.

Body chestnut, punctured, a little hairy ; head darker than the thorax, punctures sparse ; disk of the vertex impressed ; between the antennæ unequal ; antennæ and mouth paler than the head ; thorax convex, rounded each side, contracted at base, with a conspicuous impressed line, terminating behind in a dilated puncture ; elytra reddish yellow, punctured, at tip obscure ; tergum with a dorsal impressed line ; posterior or rather lateral triangular yellow spot, and on the lateral margin of each segment ; thighs testaceous ; tibiæ and tarsi somewhat darker.

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Length under one fifth of a inch.

Allied to *A. brunneus* nob., but the segments of the tergum are not margined around by dusky; on each is a dusky triangle, much dilated on the posterior margin, so as nearly to reach the lateral edge.

OMALIUM Grav.

1. *O. MARGINATUM*.—Piceous, punctured; antennæ and feet dull rufous.

Inhabits upper Missouri.

Body oblong-oval, piceous, punctured; head, punctures sparse, obsolete at tip, with an indentation each side between the antennæ and a longitudinal impressed line each side at base; antennæ rufous at base, red brown obscure at tip with cinereous hair; palpi rufous; thorax transverse subquadrate, punctures not crowded; posterior edge obscurely piceous; elytra longitudinally quadrate, covering more than half of the tergum, exterior margin piceous towards the humerus; exterior hind angles rounded, sutural ones acute; almost to be traced into striæ; feet piceous, paler towards the tip; tergum obscurely rufous on the margin, and on the posterior margins of the segments.

Length one-tenth of an inch.

I obtained this insect when with Major Long's expedition to the Rocky Mountains; I think it occurred at Engineer Cantonment on the Missouri. [464]

2. *O. ROTUNDICOLLE*.—Piceous, black; thorax rounded behind, emarginate before.

Inhabits Pennsylvania.

Body with rather large, numerous and profound punctures; antennæ piceous, brown, the three basal joints, labrum and palpi honey-yellow; thorax transverse oval, deeply emarginate before, equally punctured; posterior angles rounded; edges piceous; elytra equally punctured, long; terminal edge piceous; tergum piceous, rather paler on the posterior margins of the segments; feet dark honey-yellow; venter somewhat piceous.

Length less than one-fifth of an inch.

Taken on the wing at twilight, in October.

[Belongs to *Olophrum* Er.—LEC.]

1834.]

TACHINUS Grav.

1. *T. ATRICAUDATUS* nob.—Very closely allied to *atricapillus*, and *cinctus* Grav.

2. *T. OBSOLETUS*.—Black; thorax, curve on the elytra, segment margins and feet yellowish.

Inhabits Virginia.

Body black; antennæ fuscous; four basal joints yellowish; tip of the last joint dirty fulvous; mouth honey-yellow; thorax honey-yellow; elytra, in some lights with an appearance of obsolete striæ; subsutural impressed line obvious; a honey-yellow base, suture and terminal margin; abdomen with the segments piceous on their posterior margins; feet pale yellowish.

Length over one-fourth of an inch.

I obtained this species in October, at Chinquoteague Island.

[Belongs to *Boletobius*.—LEC.]

3. *T. TRIMACULATUS*.—Yellowish; head and three elytral spots blackish; tergum rufous.

Inhabits Pennsylvania.

Body yellow, tinged with honey-yellow; head obscure piceous; antennæ fuscous; four basal joints pale yellow; mouth yellow; mandibles piceous at tip; thorax immaculate; scutel piceous; elytra with a few remote punctures on the basal half, and towards the tip obsolete impressed striæ, a subsutural impressed line, near which is a series of distant larger punctures; region of the scutel with a dilated blackish triangle, extending to the middle of the length of the suture, and thence by a narrow and paler sutural line to the tip; exterior [465] margin or epipleura black, with a spot near its tip extending inwards, half way to the suture, but not reaching the tip of the elytra; tergum dull sanguineous; near the tip with an obsolete, blackish band; at tip with a yellowish tinge.

Length over three-twentieths of an inch.

[Considered by Erichson identical with the European *Boletobius pygmaeus*; it has been subsequently described as *B. venustus*, Mels., and *B. angularis*, Sachse, Ent. Zeit. 1852, 122.—LEC.]

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4. *T. CINCTICOLLIS*.—Black ; posterior thoracic margin, line of the elytra, and feet yellowish.

Inhabits Indiana.

Body black ; mouth yellowish ; palpi pale yellow : antennæ fuscous, three basal joints yellowish ; fourth joint piceous ; thorax, posterior margin, and lateral margin dilating towards the posterior angles, honey-yellow ; scutel piceous ; elytra with an appearance of striæ at tip ; a sutural impressed stria, near which is a series of distinct punctures, and another near the middle and a submarginal one ; pale yellowish, a dilated oval blued black spot extends from before the middle to the tip, does not attain to the suture and is confluent with a blackish marginal line which does not reach the humerus ; tergum, segments on their posterior margins, obscure piceous ; feet pale yellow.

Length less than one-fifth of an inch.

Distinguished from the others of this country, by the differently colored thoracic margin.

[Also a *Boletobius*.—LEC.]

5. *T. HUMIDUS*.—Black ; elytra and posterior margins of the abdominal segments, rufous.

Inhabits Indiana.

Body black ; antennæ brownish, base and mouth honey-yellow ; thorax piceous on the posterior edge ; elytra rufous or honey-yellow, an impressed subsutural line, near which is a series of punctures, surface with sparse punctures almost to be traced into two or three series ; sutural margin very slightly dusky ; tergum blackish, with piceous posterior margins of the segments ; tip somewhat fulvous ; feet honey-yellow.

Length one-tenth of an inch.

Allied to the preceding, but is a much smaller species, and the elytra are immaculate. [466]

[Erichson considers this as probably *Mycetoporus lepidus*.—LEC.]

TACHYPORUS Grav.

1. *T. FUMIPENNIS*.—Black ; margin of the thorax and base of the elytra yellowish.

Inhabits Pennsylvania.

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Body minutely punctured; head black; antennæ filiform, brown; four basal joints honey-yellow; palpi filiform, yellowish; thorax black, margined around with honey-yellow; scutel black; elytra fuliginous; a wide part of the base and narrow tip dull honey-yellow; tergum blackish, the segments piceous on the hind margins; beneath black piceous; feet honey-yellow.

Length over three-twentieths of an inch.

[Belongs to *Tachinus*.—LEC.]

2. *T. MOESTUS*.—Piceous, sericeous; thorax and elytra margined with dull yellowish, obscure.

Inhabits United States.

Body blackish, piceous, somewhat sericeous; mouth and antennæ dull yellowish; the latter pale brownish towards the middle; palpi, penultimate joint thick; last joint much shorter and acicular; thorax dilated, convex, lateral and basal margins dull yellowish; elytra, basal, and exterior margins dull yellowish; abdomen somewhat hairy at tip, beneath honey-yellow; feet not or hardly spiny.

Length less than three-twentieths of an inch.

The paler margins of the thorax and elytra are sometimes almost obsolete.

[Belongs to *Conurus*, and previously described as *T. crassus* Grav.—LEC.]

3. *T. JOCOSUS*.—Black; thorax, elytra, feet and mouth yellowish.

Inhabits Indiana.

Head black piceous, polished, convex, impunctured; antennæ honey-yellow (six ultimate joints wanting in the specimen); palpi honey-yellow, terminal joint acicular; thorax polished, impunctured, yellowish; anterior and posterior margins blackish; scutel blackish; elytra yellowish, with very fine, prostrate hairs; region of the scutel blackish; tergum, posterior margins of the segments yellowish, longer than the elytra (in the preserved state); feet pale yellow.

Length one-tenth of an inch.

[Afterwards described as *T. arduus* Er.—LEC.]

4. *T. VENTRICULUS*.—Black; thorax each side and elytral margin piceous.

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Inhabits Pennsylvania.

Body black, with a slight piceous tinge, polished; antennæ dull [467] yellowish, dusky towards the tip; mouth dull yellowish; palpi filiform; thorax piceous on the lateral margin, gradually shading to the general blackish color; elytra on the lateral margin and at tip piceous; common edge of the tip not indented at the suture; tergum (in the preserved state) much shorter than the elytra, at tip of the segments dull piceous; feet honey-yellow; tibiæ not remarkably spiny.

Length one-twelfth of an inch.

The abdomen contracts very much in desiccation.

This can hardly be *crassus* Grav., as his description does not indicate it.

[Considered by Erichson as a *Tachinus*, but more recently such species have been separated as a distinct genus *Coproporus* Kraatz.—LEC.]

5. *T. OPICUS*.—Blackish; feet, base of the thorax and of the elytra obscure reddish-brown.

Inhabits Missouri.

Body deep black brown, somewhat sericeous; head black; antennæ at base and tip pale reddish-brown; palpi pale reddish-brown; thorax convex; a narrow, obscure, red brown posterior margin; elytra with a broad red brown basal margin; feet red brown; tibiæ not remarkably spinous; tergum with paler margins to the segments, shorter than the elytra, hairy at tip.

Length over one-tenth of an inch.

This species is not highly polished, but is distinctly sericeous. [Afterwards described as *Conurus cinctulus* Er.—LEC.]

5. *T. ACAUDUS*.—Abbreviated; honey-yellowish; thorax paler each side.

Inhabits Indiana.

Body honey-yellow, polished; head black piceous; antennæ fuscous, four basal joints obscure yellowish; palpi yellowish, last joint acicular; thorax honey-yellowish, more dusky on the disk and at base, and paler, somewhat translucent on the lateral margin; elytra yellow with a rufous tinge, a little hairy, dusky on the region of the scutel; tip of the suture a little rounded, so as 1834.]

to produce an acute, but small, common emargination; tergum less than half the length of the elytra, blackish-brassy, somewhat hairy; feet yellow, pale; tibiæ with obvious, but not very prominent spines.

Length nearly one-twelfth of an inch.

This is very broad in proportion to its length, in consequence of the great contraction of the abdomen in drying. It resembles *jocosus* N., but is wider in proportion to its length, without taking into consideration the extraordinary brevity of the abdomen. [468]

7. *T. FABER*—Thorax and elytra yellowish; near the scutel depressed; last joint of the palpi very short.

Inhabits Indiana.

Body somewhat depressed; head blackish-piceous, polished; antennæ yellowish towards the base; palpi, penultimate joint rather dilated; ultimate joint very short, conic, hardly one-fourth as long as the preceding; thorax honey-yellow, glabrous; scutel small, dusky; elytra paler than the thorax, slightly hairy; suture and base near the scutel a little dusky; region of the scutel somewhat indented; tergum wider and more depressed than in most species, paler towards the tip; beneath reddish-brown; feet yellowish; tibiæ a little spinous.

Length about one-twelfth of an inch.

The abdomen is more depressed than usual in this genus, and the terminal joint of the maxillary palpi is much shorter than in our other species.

Much reform seems requisite in this and the preceding genera.

[According to Erichson this is the European *T. faber*.—LEC.]

8. *T. FIMBRIATUS* Grav.—Varies in being more or less tinged with ferruginous. The head and thorax are sometimes entirely dull ferruginous. It is the *boleti* of Melsh. Catal., but it was afterwards first described by Gravenhorst under the name which I have of course adopted.

[Belongs to *Tachinus*.—LEC.]

ALEOCHARA Grav.*

1. *A. OBSCURICOLLIS*.—Black; elytra ferruginous; tarsi piceous.

Inhabits Mexico.

Body black; head opaque; labrum piceous; thorax orbicular, truncated before for the reception of the head, opaque; elytra ferruginous, length hardly exceeding the breadth; scutellum black, opaque; abdomen obviously hairy, polished, lateral edge somewhat elevated; tarsi piceous.

Length less than three-tenths of an inch.

2. *A. BIMACULATA* Grav.

A species very closely allied, or perhaps the same as the *bimaculata* Grav., is an inhabitant also of Mexico.

3. *A. LUSTRICA*.—Blackish; thorax each side, elytra and feet dull rufous.

Inhabits Pennsylvania.

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Body piceous-black, obviously punctured; head black, with numerous punctures, sparse in front and more dense behind; before the antennæ triangularly carinate, dull piceous; antennæ dark reddish-brown, three basal joints honey-yellow; mouth dull honey-yellow; thorax with very numerous punctures, rather larger towards the base and almost to be traced into transverse arched lines; lateral margins piceous; elytra dull yellowish-rufous, with dense punctures; abdomen piceous at tip; feet honey-yellow.

Length under one-fourth of an inch.

[The same as the European *A. fuscipes*.—LEC.]

4. *A. FASCIATA*.—Yellow; head, band of the elytra, spot on the tergum black.

Inhabits Pennsylvania.

Body yellow, with a slight rufous tinge; head black piceous, with rather large punctures each side towards the eyes; eyes large, prominent; mouth dull yellowish; antennæ at base pale

* None of the species placed by Say under this genus are mentioned in the *Genera et Species Staphylinorum* of Erichson.—LEC.

yellow; thorax sparsely and unequally punctured, with four somewhat larger remote punctures on the disk; elytra punctures small, not deeply impressed; posterior half blackish; tergum with a black dot near the tip; feet whitish.

Length about one-twelfth of an inch.

This is the *A. fasciata* of Melsh. Catal.

[*Gyrophæna vinula*, or *G. dissimilis* Er.—LEC.]

5. *A. INDENTATA*.—Yellowish; head, thoracic disk, elytral spot and middle of the tergum, black.

Inhabits Pennsylvania.

Head not obviously punctured; eyes not remarkably large or prominent; antennæ reddish-brown, pale at base; mouth honey-yellow; thorax dull yellowish, dusky in the middle; a longitudinal impressed line, and an indentation on the middle of the base; elytra with small, numerous punctures; yellowish, with the sutural edge and a triangular spot, extending from before the middle to the posterior outer angle, but not reaching the suture; tergum reddish-yellow, the two middle segments blackish; beneath yellowish; postpectus and middle of the venter black; feet whitish.

Length about one-fifteenth of an inch.

Var. *a*. Thorax with the dusky disk obsolete.

Resembles the *dichroa* Grav., in having the indentation on the [470] middle of the base, but it differs in many respects, and obviously in coloring.

[A species of *Homalota*.—LEC.]

6. *A. 4-PUNCTATA*.—Thorax rufous, with four punctures placed transversely.

Inhabits Missouri and Indiana.

Head piceous black, with one puncture on the inner orbit, and three or four behind the eye; antennæ, reddish-brown, three basal joints honey-yellow; palpi piceous; thorax honey-yellow with four distant punctures before the middle, placed in a transverse line, the lateral ones less distinct; elytra dull honey-yellow, with minute punctures, having prostrate hairs; tergum piceous, paler towards the tip; beneath dark piceous; feet yellowish.

Length over one-tenth of an inch

The four punctures of the thorax is an obvious character.

[I have not identified this nor the two succeeding species.—LEC.]

7. *A. PROPERA*.—Blackish; thorax depressed on the posterior middle.

Inhabits Indiana.

Body with very numerous small punctures, furnishing pale yellowish hairs; antennæ black fuscous, three or four basal joints piceous; mouth piceous; thorax black piceous, conspicuously hairy; on the middle of the base indented; elytra piceous brown, obviously hairy, a little depressed on the basal margin and in the region of the scutel; tergum black; feet pale piceous.

Length over or about one-tenth of an inch.

The depression, almost or quite amounting to an indentation at the base of the thorax is sometimes geminate.

8. *A. SEMICARINATA*.—Blackish; thorax with a carina on the basal half.

Inhabits Missouri.

Body black with a piceous tinge; thorax with an elevated line or two parallel impressed striæ, from the middle to the base; elytra with a slightly impressed sutural groove on the basal half; abdomen black; feet pale piceous. [471]

[Continuation from Vol. VI. N. S., 1836, pp. 155–190.]

9. **A. SIMPLICICOLLIS*.—Blackish; antennæ, feet, inner tip of the elytra and posterior margins of the segments of the tergum reddish-brown.

Inhabits Missouri.

Body with short prostrate hairs; head black; antennæ reddish-brown; transverse joint somewhat darker; elytra on the sutural margin, particularly towards the tip, obscure reddish-brown; common emargination at tip very obvious: tergum with the pos-

*In the description of the preceding species (*A. semicarinata* see Vol. IV. N. S., p. 470,) the following details were accidentally omitted:—
Length less than one-tenth of an inch.

Resembles *A. propera*, but may be distinguished by the double thoracic groove, forming an inclined carina.

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terior margins of the segments dull reddish-brown; feet reddish-brown or honey-yellow.

Length about one-tenth of an inch.

Distinguished from the two preceding species by the simplicity of the thorax and the margined segments of the tergum.

[I have not yet identified this species.—LEC.]

10. *A. FALSIFICA*.—Black; with converging hairs; elytra and feet yellowish.

Inhabits Indiana.

Body black, with rather long, prostrate hairs: head with the hairs [156] converging to the middle line and directed forward, antennæ blackish; basal joints obscure piceous: palpi dull yellowish; thorax with the hairs converging to the middle line and directed forwards: elytra dull yellowish, darker on the base, suture and outer margin; the hairs somewhat arranged so as to resemble striæ: feet honey-yellow.

Length about one-tenth of an inch.

[I have not yet identified this species.—LEC.]

11. *A. VERNA*.—Black; distinctly punctured; inner top [tip?] of the elytra dull yellowish.

Inhabits Missouri.

Body with scattered hairs: head polished, with sparse irregularly arranged, rather large punctures: antennæ of the basal joints hardly tinged with piceous: thorax polished, with numerous, rather large, unequal and irregularly scattered punctures; middle line destitute of punctures: feet black-piceous.

Length about one-tenth of an inch.

The more conspicuous and irregular puncturing will distinguish this species from the above described.

[If for *top* we read *tip*, this is *A. nitida* Grav.—LEC.]

12. *A. EXIGUA*.—Black; punctured; antennæ and feet hardly tinged with piceous.

Inhabits Indiana.

Body black, a little polished, with short hair; punctures numerous, somewhat regular: antennæ at base and palpi very slightly tinged with piceous: elytra a little indented at the scutel:

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at tip the common emargination obtuse, not profound : feet black-piceous.

Length one-twentieth of an inch.

[A *Homalota*, probably the same as *Oligota pedicularis* Mels.—LEC.]

13. A. MINIMA.—Black ; elytra and feet dull yellowish.

Inhabits Indiana.

Body black, with numerous prostrate hairs : antennæ towards the base with a very slight tinge of piceous : elytra dull yellowish : tergum dirty yellowish at tip : feet whitish yellow, dull.

Length nearly one-tenth of an inch.

Var. *a*. Thorax nearly the color of the elytra.

[Also a *Homalota*.—LEC.]

14. A. BILOBATA.—Dark reddish-brown ; thorax subcordate, canaliculate, feet pale.

Inhabits Missouri and Indiana.

Body very dark reddish-brown, with numerous regular punctures : antennæ, two basal joints paler : mouth beneath, excepting the terminal joints of the maxillary palpi, pale testaceous : thorax rounded before and narrower behind ; very deeply canaliculate ; groove abruptly abbreviated on the basal margin : elytra at tip and sides with smaller [157] punctures than the thorax ; suture indented : feet pale testaceous : tergum, segments with dilated punctures at base.

Length less than three-twentieths of an inch.

The thoracic canal is less dilated, but at least as profound as that of the *canaliculata* Grav. ; the thorax is more contracted behind, and the head more prominent, and distinctly separate from the thorax by a short neck.

The genus *Aleochara*, as is obvious to entomologists, needs reformation. The present species, and some others of Gravenhorst's first divisions, may be separated from it under the following name and characters.

Genus *Aleodorus*.—Head prominent, with a distinct neck, not inserted into the thorax ; antennæ inserted into the anterior internal orbit of the eye ; three basal joints longest ; maxillary

1836.]

palpi long, terminal joint acicular; thorax longitudinal, rounded on the sides, or without lateral edge; feet simple.*

[Belongs to *Falagria*.—LEC.]

. BUPRESTIS F.

1. *B. VIRGINICA*.—Turton's Linn. p. 411; Drury's Ins. vol. 1, p. 66, pl. 30, fig. 3.

This species very closely resembles *B. mariana* L., and notwithstanding the magnitude of Drury's figure, it is somewhat smaller than the latter species, the posterior part of the thorax is a little narrower and the curvature of its lateral edge is somewhat different. It inhabits the Eastern and Middle States.

[Belongs to *Chalcophora*.—LEC.]

2. *B. LIBERTA* Germ.—This differs more in color from the *virginiensis*, than the latter species does from the *mariana*; but it corresponds with *virginiensis* in the form of the thorax. I am still inclined to consider it a variety of that species, which Germar does not refer to in his description of *liberta*.

[Also a *Chalcophora*.—LEC.]

3. *B. LURIDA* F. (and Melsh. Catal.)

This is the *corrosa* Deg. MSS. Herbst. Olivier did not observe the anal points, which are sometimes obscured by the hair.

[A species of *Dicerca*.—LEC.]

4. *B. DIVARICATA* nob.—That this insect is closely allied to *acuminata* F., there can be no doubt, and Dejean (in a letter) considers it the same; but, on reference to the description of that species by Gyllenhal (*Insecta Svecica**), I find the following characters, "thorax ante scutellum puncta duo impressa; anus emarginatus." In the present species is only a single indentation at the base of the thoracic groove, and immediately anterior

*I am indebted to Professor Wiedemann for the two very useful works on "Coleoptera Microptera" by Gravenhorst. They contain detailed descriptions of many North American species of the Linnaean genus *Staphylinus*, which now constitute a large family.

†For this very accurately descriptive work, I am indebted to the politeness of the author.

to the scutel, and the anus is tridentated, the middle tooth being more slender and acute. A variety in my collection is destitute of the punctured striæ of the elytra.

[Also a *Dicerca*.—LEC.]

4. B. OBSCURA F. (and Melsh. Catal.)

Herbst says the side of the thorax is rectilinear, not arcuated. This would agree better with *lurida* F.; my specimens of *obscura* are rectilinear only from before the middle to the base.

[Also a *Dicerca*.—LEC.]

5. B. DENTIPES Germar.—This is the *characteristica* of Melshemer's Catalogue; but, as no mere catalogue can establish a name, Germar's must be of course retained, because it is the first name recognized by a description.

[This and the two following belong to *Chrysobothris*.—LEC.]

6. B. HYBERNATA F.—From the specimen in my collection, I am led to believe that the *hybernata* F., is but a variety of the *frontalis* Olivier, and that both have serrate elytra; but I have not at present the means of referring to Olivier's work. My specimen is reddish purple; thorax immaculate; elytra serrate, with but five green spots; and the anterior thighs are armed with a prominent tooth.

7. B. SEXGUTTATA nob. (Journ. Acad. Nat. Sc.)—This name being preoccupied by Herbst for an American species, we change it to *sexsignata*.

8. B. GIBBICOLIS nob. (Journ. A. N. S.)—This name is preoccupied by Illiger for an European species, it must therefore be changed.

[A species of *Ptosima*, ante, 104.—LEC.]

9. B. PULCHELLA Herbst.—The *volvulus* F., is probably the same species; but which of the two names has the priority I cannot now ascertain, not having the date of Herbst's volume. There is some confusion amongst the species of the small group to which this belongs, in consequence of the short descriptions of Fabricius. Herbst's description of this species cannot well be mistaken. I have found it in Pennsylvania, [159] Florida and Arkansa. It is the *ornata* of Dejean's Catalogue; and 1836.]

Germar, in a letter, considers it a new species under the name of *olydonia*.

[This and the two succeeding species belong to *Acmæodera*.—
LEC.]

10. B. ORNATA.—About the size of the preceding, though perhaps a little more robust, of a much darker color; and may also be distinguished from it by the thorax having the dorsal line deeply indented, more especially on the posterior margin, and being obtusely angulated behind the middle of the lateral edge. Dejean supposed it a new species, and gave it, in MSS., the name of *multiguttata*, but I think there is no doubt that it is the Fabrician species.

11. B. TUBULUS F.—This species is described as having but five yellow punctures on the elytra, placed 2, 2, 1, the latter being the largest. But it varies considerably in this respect, sometimes having eight or nine spots, and again other specimens occur with not more than are indicated by Fabricius, if we consider the posterior larger one as being composed of two confluent ones. The rest of the description agrees precisely, and even the noted size corresponds with our insect; as Fabricius says, “*statura omnino C. volvuli, at duplo minor.*” It may indeed be at once distinguished from *pulchella* by its much inferior size, very different color, and the greater regularity of its elytral spots; but the lateral edge of the thorax has a similar curvature. It is the smallest of our species of the group distinguished by the want of scutel, &c.. and approaches the *ornata* by its coloring and the somewhat similar arrangement of the elytral spots, but differs in the regular curvature of its lateral thoracic edge. It is the *volvulus* of Dejean’s Catalogue. Germar believed it new and gave it the name of *xanthocyma*; it is the *culta* of Weber; and Dr. Harris has described it under the name of *geranii*.

12. B. ACORNIS.—Brassy black; antennæ short; scutel green; beneath cupreous.

Inhabits Indiana.

Body with dense, rather large, confluent punctures: head a little tinged with cupreous, particularly towards the tip; tip of the clypeus not narrowed, not emarginate, but with a slight con-

concave curvature: labrum hardly prominent, not visible when viewed from above: antennæ very short, not reaching the vertex, the three basal joints together about as long as all the others combined; thorax in breadth at least [160] twice the length, with transverse confluent punctures: scutellum bright green: elytra with transversely confluent punctures; serrate from near the humerus; surface obsoletely undulated: beneath cupreous: anterior thighs with a prominent acute spine.

Length seven-twentieths of an inch.

A small and distinct species.

[Belongs to *Actenodes* Lac. Gen. Col. 4, 72.—LEC.]

13. *B. IMPEDITA*.*—Elytra bluish-green, grooved and punctured.

Inhabits Pennsylvania.

Head confluent punctured, green with a cupreous reflection: antennæ steel-blue, at base green: labrum green, ciliate at tip: thorax cupreous, with green confluent punctures; on some parts of the disk the punctures are sparse: scutellum oval, regularly concave, green; elytra densely punctured, with five dilated grooves and four elevated lines, the latter sparsely punctured; green, gradually shaded into a blue vitta along the middle; suture and outer margin cupreous; tip somewhat truncated: beneath green cupreous.

Length three-fifths of an inch.

The specimen was taken near Philadelphia. It is evidently related to *salisburyensis*, as described by Weber, to *decora* F., and *splendens* F., of China. But Weber's description states the former to have striated elytra, without elevated lines. The *splendens* has only three elevated lines on the elytra, and the *decora* is larger, with the tip of the elytra two-toothed. Neither can it be the *striata* Oliv., as the elytra are not slightly bidentate, nor are their two inner elevated lines abbreviated. A variety found by my brother, B. Say, in New Jersey, is much tinted

* Dr. Harris is of opinion that this species, the *aurulenta* of Linnæus and Olivier, and the *striata* of Fabricius are the same; and that the *decora* F. and *salisburyensis* Weber and Herbst, are identical. The latter differ from the *aurulenta* L., in not having elevated lines on the elytra.

with copper, and is smaller, but the sculpture and form are the same.

I may add, as closely allied to the *impedita* and to the *salisburyensis* Web., in point of coloring, a specimen which I found in New Jersey many years since, and which I then described under the name of *ultramarina*; but the description was mislaid and never published, and the specimen is now deprived of its head and thorax. The following is a description of what remains of it.

[160]

Scutel orbicular, disk indented: elytra blue on the disk; submargin and subsuture green, passing into golden towards the margin and suture which are brilliant coppery or red golden; basal margin green golden; surface with seven or eight striæ of dilated profound punctures; the interstitial lines with each a single series of smaller punctures; elevated lines; tip truncated, with a slight projection at the inner angle: beneath green-golden, with a slight coppery tinge: tibiæ coppery.

Length of the elytra two-fifths of an inch.

It is more brilliant than either the *impedita* or *salisburyensis*. From the former it is distinguished by being destitute of elevated lines on the elytra, and from both by its regular series of large profound punctures.

[I agree perfectly with the opinions of Dr. Harris expressed in the note on the preceding page, except in regard to the *B. aurulenta* mentioned, which is not that of Linnæus, but of Olivier and several later authors. The description of Linnæus, Syst. Nat. 1, 661, makes no mention of the elytral costæ, and applies better to *A. decora* than to *A. striata*; the name has produced so much confusion, that it should not be applied to any species, but should rather be altogether dropped; *B. ultramarina* is an *Ancylochira* very closely allied to *A. decora*, but of a broader form, with the intervals of the elytra less irregularly punctured, especially towards the suture, with the tips rounded or truncate and not bidentate.

Messrs. Laporte and Gory, by unaccountable carelessness, have affixed this name to a species of *Chrysobothris*.—LEC.]

14. *B. VIRIDICORNIS* nob.—This has been mistaken by an European entomologist for the *Agrilus ruficollis* F.; but it is

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very different in form, which is much more like that of a true *Buprestis*; and the color is also different, though that of the head and thorax probably deceived him, being coppery in each, though much more obscure in our insect. I have taken a variety in this State differing greatly in color, so much so, that it might lead to error unless actually compared.

The color is bright green; thorax on the disc tinged with coppery, with a common green triangle extending from the humerus to beyond the middle; beneath the green color is less brilliant. Another variety has the cupreous color of the thorax confined to the lateral margin, the remainder being of the color of the elytra.

I may add to the specific description that the head has an orbicular indentation between the eyes, and a slightly indented line on the vertex; the scutel is altogether destitute of a transverse elevated line; it is convex, and widely triangular; the elytra are minutely serrate at tip.

This species has characters in common with *Buprestis* and *Agilus*, and it may perhaps belong to the latter.

[Two species of *Anthaxia* are here confounded together: one is *A. quercata*, the other a variety of *A. viridicornis*.—LEC.]

AGRILUS Megerle.

1. *A. RUFICOLLIS* F.—We may add to the Fabrician characters that the head is profoundly indented on the vertex; the indented line is continued down the front; the elytra are scabrous, and at tip, as well as that of the abdomen, serrate.

Var. a. Thorax obscure green.

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Var. b. Thorax color of the elytra.

The great indentation of the vertex distinguishes this species from others of this country. Herbst's figure only tends to mislead, if indeed it can be intended for this insect at all. It is too robust, the thorax is not represented as indented, and the elytra are punctured in striæ, with large punctures.

2. *A. GEMINATUS* nob.—A numerous species; the color of the head and thorax often resembling those of the preceding species, but the acute, arcuated elevated line at the posterior angles, is 1836.]

similar to that of the *linearis* F., of Austria, which it very much resembles.

3. *A. POLITUS* nob.—Much like *arcuatus*, but a little more robust, and of a brilliant color. Like the other species its elytra are denticulated at tip. Having examined numerous specimens, I find that it is not of a larger size than *geminatus*.

4. *A. ARCUATUS* nob.—A little larger than *geminatus*, and resembling it in the character of the elevated line at the posterior thoracic angles, but the antennæ are much more slender and elongated.

5. *A. GRANULATUS* nob.—This species has three hardly visible fulvous spots on the elytra; one on the depressed base, one near the suture before the middle, and one behind the middle, also near the suture. I have a specimen in which these spots are not at all visible.

The elevated line at the posterior angles of the thorax is short, but very obvious.

6. *A. BILINEATUS* Weber, nob.—In my printed description an error occurs. When describing the elytral vittæ, instead of "extended towards the tip, where it gradually approaches the scutel," I should have said suture instead of "scutel."

7. *A. LATERALIS* nob.—I stated in the description that the elytra are entire; I would add that they are not obviously denticulated at tip.

8. *A. PUSILLUS* nob.—The smallest North American species I have yet seen.

The above species of *Agrilus*, excepting the first, I described in the Journal Acad. Nat. Sc., and the Annals of the Lyceum of Nat. Hist., of New York, under the genus *Buprestis*, to which most entomologists yet refer their kindred species. [163]

9. *A. FALLAX*.—Elytra with about three spots on each, which exhibit a different reflection.

Inhabits Indiana.

Brassy-greenish: head green, sometimes cupreous on the vertex; impressed line hardly obvious: thorax with a dorsal and lateral indented line; the former more obvious behind, the latter

oblique and dilated; more or less tinged with cupreous; an arcuated, elevated line at the posterior angles; posterior angles acute: elytra with the basal indentation, subsutural spot behind the middle, composed of minute prostrate hairs, producing a different reflection from that of the general surface; tip denticulate: beneath blackish-brassy.

Var. *a*. Dull cupreous; thorax brighter.

Length more than one-fifth of an inch.

Distinguished by the elytral spots offering a different reflection from the remainder of the surface. In some positions they are hardly obvious; but seen from before or behind they are distinct, particularly the posterior one.

10. *A. PUTILLUS*.—Thorax transversely indented before and behind the middle; elevated line of the posterior angle none.

Inhabits Indiana.

Body blackish-brassy: head greenish; longitudinal impressed line very distinct: thorax with a transverse indentation before, a much larger transverse indentation behind the middle, and a more profound lateral one parallel with the lateral margin; posterior angles destitute of an elevated line, retangular or rather more obtuse; elytra, basal indentation ovate-oblong, oblique; tip denticulated, from the suture to the middle concave; suture rather prominent.

Length over one-tenth of an inch.

Only three of the before mentioned species are destitute of an elevated line at the posterior thoracic angles, viz. the *ruficollis*, *bilineata* and *lateralis*, to these we may add the *cogitans* Weber. From all these the present is separable by its inferior size, excepting the *lateralis*, which has no denticulations at the tip of the elytra. One of my specimens has the head green before.

11. *A. OTIOSUS*.—Line of the thoracic angles short and obtuse; front but slightly punctured.

Inhabits Indiana.

Body greenish, or brassy-blackish, rather slender: head with the punctures obsolete, excepting on the vertex, where they are not profound [164] or well defined; beneath the middle of the front with short whitish hairs: thorax with two slight indenta-
1836.]

tions placed longitudinally, a more obvious one on the lateral margin, and another each side of the basal middle; elevated line of the posterior angles less than one-fourth of the length of the lateral edge, but slightly elevated and obtuse: elytra depressed from the suture to the middle; tip denticulated.

Length nearly one-fifth of an inch.

Resembles *geminatus*, but its form is rather more slender, the frontal punctures are obsolete, and the elevated line of the thoracic angles is much shorter and less distinct.

12. *A. COGITANS* Weber.—The thorax is described to be serrate; but on close examination the edge will be found to be entire, and the upper surface of the edge, or extreme margin only, is serrate. The body is more dilated than in any other of our species.

[Belongs to *Rhæboscelis* Chevr. and was also described as *B. ignara* Fabr.—LEC.]

TRACHYS F.

1. *T. TESSELLATA* F.

2. *T. OVATA* Weber, Obs. p. 76.

Our species vary greatly or are very numerous.

[These species belong to *Brachys*.—LEC.]

METONIUS Say.

Thorax short, wide, and deeply emarginate before for the reception of the head; not lobate behind: antennæ subclavate, concealed when at rest in a groove of the thorax; body short, wide before and narrow behind: tibiæ angulated, and when at rest the tarsi are applied to the outer edge: præsternum prominent to the mouth, and behind applied evenly to the poststernum by a transverse line.

This genus differs from *Trachys* in the thorax being not lobed behind; in the præsternum terminating by a straight line; by the dilatation of the tibiæ, &c.

[This genus is the same as the subsequently described *Pachyscelis* Solier, which is united with *Brachys* by Lacordaire.—LEC.]

1. *M. OVATUS* nob. (*Trachys*) Ann. Lyc. New York.—Those who will retain this species in *Trachys* must change the name to *lævigatus*, as the other is preoccupied in that genus.

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2. *M. PURPUREUS*.—Ovate, black; elytra purple.

Inhabits Indiana.

Body black: head with distinct punctures; front with an indented, [165] abbreviated line placed low down: thorax with scattered discoidal punctures; no lateral indentation: elytra purple; indented at the middle of the base and behind the humerus; punctures rather large but not deeply impressed, placed in series and obsolete behind: tibiæ angulated.

Length under three-twentieths of an inch.

This insect is certainly congeneric with the preceding, but it cannot be placed in *Trachys*, or even in *Aphanisticus*, if *pusillus*, Olivier, can be considered as a type of it.

APHANISTICUS Latr.

A. *GRACILIS* nob. (*Trachys*) Ann. Lyc. New York.—The thorax is not laterally dilated and reflected.

[Belongs to *Taphrocerus* Solier, which is united with *Brachys* by Lacordaire.—LEC.]

MELASIS Oliv.

M. NIGRICORNIS nob., Journ. A. N. S.

I was deterred from referring this species to *Cerophytum* Latr., by the character “le pénultième article des tarses bifide. Le corps est ovale.” Our insect cannot therefore be the *Melasis picea* Beauv., which is referred to *Cerophytum*.

ELATER L.

† *Tarsi not lobed beneath.*

1. *E. OBLESSUS* nob. (*discoideus* Fabr.)—The Fabrician phrase, when describing the elytra, is, “elytra striata, atra, marginé baseos lateraliq[ue] late albo;” but as the whitish portion occupies about two-thirds of the whole surface and might lead to error, it would be better to say, elytra whitish, with the sutural margin and exterior edge, excepting at base, black.

I change the Fabrician name, because it is preoccupied by Weber for a very different species of this country.*

* Dr. Harris says that Weber's species here referred to, is the *hamatus* of Fabricius; and that Mr. Say does not seem to have known the *Elater discoideus* of Fabricius, which is quite distinct from the above named *oblessus*.

2. *E. MORIO* F. Herbst. *E. lævigatus* F. Herbst. *E. piceus* Degeer, Turton's Linn. . [166]

This species is subject to vary through all the intermediate gradations between smooth elytra and deeply striated elytra; which is the cause why several species have been made of it. The lateral edge of the thorax is grooved.

[Belongs to the genus *Melanactes* Lec.—LEC.]

3. *E. ABRUPTUS* nob., Ann. Lyc. Nat. Hist. New York. Like *morio*, but more convex above, more impressed at the junction of the thorax and abdomen; more densely and minutely punctured; a little more robust; each joint of the antennæ originates much nearer the posterior angle of the preceding joint; and the lateral edge of the thorax is destitute of a groove, of a somewhat different form, and the head is not impressed, but is rounded on the front.

[Belongs to *Ludius*, ante 1, 390.—LEC.]

4. *E. ATTENUATUS*.—Reddish brown; elytra somewhat attenuated, blackish and mucronate behind.

Inhabits the United States.

Body bright reddish-brown, almost sanguineous, with small close set punctures: head not indented before: antennæ, joints not elongated: thorax convex, lateral margin arcuated; narrowed before; line from the posterior angle rectilinear, acute, diverging from the lateral edge so as to be as near to the inner edge: region of the scutel rather widely indented: elytra with smaller punctures than those of the thorax; with obsolete striæ; terminal oblique third black; tip somewhat attenuated and mucronate: feet a little darker.

Length four-fifths of an inch.

A variety occurs of which the elytra are obscure, but still the terminal third, and the exterior margin also, are black. In a particular light is a slight sericeous effect.

[Also a *Ludius*, ante 1, 392.—LEC.]

5. *E. VIRIDIPILIS* nob.—The thorax in form resembles those *oculatus* and *myops* F. but is proportionally longer.

The posterior angles are curved considerably downward. It is rare.

[A species of *Chalcolepidius*.—LEC.]

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6. *E. CYLINDRIFORMIS* nob.—In the description “a prominent edge above the antennæ, which disappears before;” instead of the three last words, read, which is obtusely emarginate. The head, thorax and base of the elytra have rather long, prostrate hairs; the remainder of the elytra has short hairs. Tarsi simply hairy beneath.

It may be referred to the genus *Campylus* Fischer, but the head is inserted nearly to the eyes in the thorax; and the palpi are hardly filiform.

[Belongs to *Limoniæ*.—LEC.]

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7. *E. RUBRICOLLIS* Herbst, Nob. (Journ. Acad. Nat. Sc.). This is the *verticinus* Beauvois, but I do not know which has the priority.*

8. *E. LIMBALIS*.—Thorax fulvous, disk black; elytra blackish, with a testaceous margin.

Inhabits United States.

Head blackish; antennæ wide, deeply serrate; three basal joints taken together not longer than the fourth joint; second and third very short, equal, transverse; thorax fulvous testaceous; disc in the middle, basal and posterior part of the lateral margin black; elytra testaceous all around, and blackish along the middle: beneath black piceous; pectus with an oblique, fulvous spot near the posterior angles; feet piceous.

Length less than half an inch.

This is the *limbalis* of Melsh. Catal., and I have it noted in my MSS. interrogatively as the *limbalis* of Herbst, but I have not now his work to refer to.

9. *E. ECTYPUS*.—Blackish brassy; antennæ and feet rufous; thoracic spines very short.

Inhabits United States.

Blackish or dark brown, tinged with brassy; clypeus very obtuse, almost truncated before, not appressed; above plane, with two obsolete indented lines; antennæ dark rufous, not dilated, and hardly serrate; second joint more than two-thirds the length

* Dr. Harris remarks that Herbst's name undoubtedly has the priority; for that of Palisot de Beauvois does not seem to have been sanctioned by a description.

of the third; terminal joint not abruptly contracted near the tip: thorax convex; dorsal line obvious; spines short, their excurvature hardly obvious, carina nearly parallel with the exterior edge; scutellum a little convex; elytra with punctured striae; interstitial spaces with numerous, small, definite, orbicular punctures; feet rufous; tarsi simple.

Length nine-twentieths of an inch.

It may be distinguished from the *appressifrons* nob., which it resembles, by the more convex thorax, of which the spines are much shorter and not much excurved; the antennae are more slender, and the terminal joint is not abruptly narrowed near its tip, and the punctures of the interstitial spaces of the elytra are obviously orbicular, and definite.

[Belongs to *Limonius*.—LEC.]

10. *E. PYRRHOS* Herbst.—Elongated; the thorax is narrow, the spines [168] hairy; the joints of the antennae are in length about three times their greatest breadth, even the second joint is in the same proportion with respect to the third: the length of the antennae is equal to half that of the body: clypeus subquadrate, concave towards the tip.

Length seven-tenths of an inch.

[Belongs to *Corymbites*; *Athous pyrrhicus* Hald., *A. vagrans* Mels., and *A. æqualis* Mels. are synonyms of the female.—LEC.]

11. *E. SULCICOLLIS* nob. (*E. parallelus* Say, Ann. Lyc. New York).—Dejean informs me that the name *parallelus* is preoccupied, and proposes to substitute for it that which I now give. An expressive name would be *inversicollis*, the thorax being as wide, or rather wider before than behind.

[Belongs to *Corymbites*, ante 1, 391.—LEC.]

12. *E. VIRIDIS* nob., Ann. Lyc. New York.—Antennae short: joints in their greatest breadth nearly equal to their length; second joint hardly half as long as the third: clypeus at tip not prominent, but only distinguished by a line: thoracic spines with a carinate line parallel to the exterior edge. [Ante, 1, 390.]

13. *E. AURIPILIS* nob., Journ. Acad. Nat. Sc.—I obtained another specimen in the N. W. Territory.

It is remarkable for the deep indentations of the clypeus.

[A species of *Limonius*.—LEC.]

14. *E. SEMIVITTATUS* nob., (Ibid.).—In the only specimen at present in my cabinet, is a transverse indented line in the middle of the lateral margin; the thoracic dorsal line is polished behind the middle.

15. *E. OBESUS* nob. (Ibid.).—The clypeus is not prominent, and the thoracic spines are not carinated; the elytra, in one specimen, are acuminate at tip: the nails are very robust on the basal half, which terminates at the middle in a prominent tooth, separated by a deep fissure.

16. *E. VIRIDANUS* nob. (Ann. Lyc. Nat. Hist.).—The thorax has two orbicular indentations before the middle.

17. *E. MANCUS* nob. (Journ. A. N. S.).—Second joint of the antennæ rather longer than the third. Clypeus not prominent.

Inhabits New Hampshire, Harris.* [169]

18. *E. CONVEXUS* nob. (Journ. A. N. S.).—With a good magnifier the interstitial lines appear to have minute punctures; the third and fourth, and fifth and sixth striæ of the elytra are confluent before the tip.

* [Among Mr. Say's suppressed descriptions is the following, which may be of use in determining the species, and is therefore worth preserving.]

18. *E. LINTEUS*.—Black; elytra whitish, tip and sutural edge black. Inhabits the United States.

Body black: clypeus not prominent, rounded at tip: antennæ robust, deeply serrate; second joint transverse, nearly orbicular, very small: thorax gradually narrowed before by a rectilinear edge almost to the anterior margin; an impressed line at base; posterior angles carinate, rather acute: scutellum convex, acute behind: elytra whitish, with striæ of dilated punctures; tip black; a narrow, black, sutural margin, and exterior edge, behind the middle, black: feet piceous: tarsi, fourth joint hardly shorter than the third.

Can this be the *mixtus* Herbst? It is the *deustus* of Melsheimer's Catalogue? a name preoccupied by Thunberg for a species of Ceylon.

[This description Mr. Say originally arranged immediately after that of *E. mancus*, in the papers printed at New Harmony, during the summer of 1834, but omitted it with the following remark:]

Le Conte says that it is the *lugubris* Beauv.

[Afterwards described by Germar as *Ampedus lugubris*.—LEC.]

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19. *E. CARDISCE*.—Thorax rounded, convex, with an elongated lateral fissure at base.

Inhabits the United States.

Body, blackish : head with short, dense, prostrate, cinereous hair ; clypeus elevated above the front, edge a little reflected : antennæ nearly as long as the thorax, second joint shorter than the third : thorax elevated, convex, with a slight violaceous tinge, and short, prostrate, cinereous hair ; regularly arcuated each side ; lateral edge hardly raised, placed low down and obsolete before the middle ; basal margin profoundly bisinuate, with an elongated fissure near the lateral angles and a small prominence in the middle ; angles short, abrupt : scutel cordate, having a basal fissure : elytra, striæ deeply impressed, third and fourth, fifth and sixth confluent before the tip ; very short hair ; interstitial lines convex, minutely rugulous, an obsolete paler spot in the middle and another beyond the middle : beneath slightly tinged with violaceous : tibiæ and tarsi dark rufous.

Length three-tenths of an inch.

I have taken it in Pennsylvania, and Dr. Harris in Massachusetts. It resembles *convexus* S., but the thorax is much more narrowed behind, &c.

[Belongs to *Cardiophorus*.—LEC.]

20. *E. DISCALCEATUS*.—Clypeus prominent, triangularly impressed.

Inhabits New Hampshire.

Body hairy, rufous ; discs of the thorax and elytra a little dusky ; head densely punctured ; clypeus prominent and obtuse before, with a larger triangular indentation : thorax a little dusky on the anterior margin ; posterior angles a little excurved, obtuse, carinated line prominent, [170] acute, not parallel with the edge : elytra with the punctures of the striæ not longer than broad : beneath much paler.

Length nearly half an inch.

The antennæ are not longer than the thorax, and the terminal joint is not remarkably contracted near its tip. The individual was sent to me for examination by Dr. Harris. It resembles *cucullatus* S., but is destitute of tarsal lobes.

[Belongs to *Athous*.—LEC.]

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21. *E. APICATUS*.—Elytra bright rufous, black at tip.

Inhabits New Hampshire.

Body black, with short yellowish hairs: clypeus convex, anterior edge not obtusely rounded, declining, but distinct at tip: antennæ dark piceous, rather shorter than the thorax, second and third joints subequal: thorax wider at the posterior angles; lateral edge rectilinear from the middle to the tip of the posterior angles, which are prominent and acute: elytra bright rufous, with a longitudinal black spot at tip: striæ impressed, rather wide, punctured; interstitial spaces convex, punctured: tarsi piceous.

Length nine-twentieths of an inch.

The specimen was kindly sent to me by Dr. Harris for examination. Resembles *sanguinipennis* S., but is larger, with a black spot at tip of the elytra.

22. *E. HAMATUS*.—Blackish, thorax with golden hair; elytra whitish, with a dusky hooked line at tip.

Inhabits Massachusetts.

Body blackish piceous: antennæ dull rufous, hardly as long as the thorax, second and third joints subequal, ultimate joint oval, not longer than the preceding one: thorax convex; posterior angles excurved, prominent, obtuse at tip; hairs golden, prostrate; carinated line parallel to the edge; elytra yellowish-white, with a piceous vitta on the outer margin from the tip to near the middle, where it curves inward and backward towards the suture and tip; striæ impressed and punctured: feet rufous.

Length over two-fifths of an inch.

Sent to me by Dr. Harris.

[Belongs to *Corymbites*.—LEC.]

23. *E. FALLAX*.—Clypeus appressed to the front anteriorly; posterior thoracic angles short.

Inhabits New Hampshire.

Body blackish-piceous, with yellowish sericeous hair: clypeus anteriorly confluent with the front: antennæ about as long as the thorax; joints hardly longer than their greatest breadth: thorax narrowed before; [171] lateral edge a little arcuated; punctures minute; posterior angles short, rather wide, scarcely excurved; carina short; basal margin somewhat depressed, with 1836.]

a longitudinal indentation in the middle, and a slender impunctured line extends to the anterior edge: elytra striate, the striæ not very obviously punctured, third and fourth confluent before the tip; greatest breadth posterior to the middle: tibiæ and tarsi rufous.

Length two-fifths of an inch.

This species was sent to me by Dr. Harris. The particular disposition of the hair on the elytra of the specimen gives the appearance of a broad band at base, another beyond the middle, and a subsutural spot in the middle, blackish.

[Also a *Corymbites*.—LEC.]

24. *E. ARMUS*.—Black; shoulder rufous.

Inhabits United States.

Body black: clypeus with large punctures, somewhat triangularly depressed, anterior edge obtusely arcuated, distinct from the anterior part of the head: antennæ, joints as broad at tip as long, second and third equal, terminal one large ovate acute, not abruptly smaller towards the tip: thorax convex; punctures rather distant, larger before; lateral edge subrectilinear, a little undulated; posterior angles short, their exterior edge very much arcuated, so that the tip points inward and backward, carina diverging and distant from the edge, and not very obvious: elytra with punctured striæ, third and fourth confluent before the tip; interstitial spaces punctured; humerus rufous.

Length one-fourth of an inch.

Different from *scapularis* S., of which the tarsi are lobed. It inhabits the Middle States, and Dr. Harris sent me one from Massachusetts.

[This is the type of *Gambrinus* Lec. Trans. Am. Phil. Soc. 10, 435; it is united with *Limonius* by Lacordaire.—LEC.]

25. *E. AGONUS*.—Posterior thoracic angles very short and rounded; antennæ longer than the thorax.

Inhabits Massachusetts, Harris. Pennsylvania.

Body violaceous-blackish: clypeus very obtuse before and hardly distinct from the anterior part of the head; punctures small, antennæ rufous, the tip of the ninth joint reaching the tip of the posterior thoracic angle, third joint a little longer than

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the second, which is globular; terminal joint obtuse at tip: thorax with small punctures, and like the head, with prostrate hair; lateral edge slightly arcuated to each extremity; at base an impressed line in the middle, and an oblique one each side; posterior angles very short, obtusely rounded: elytra with [172] short hairs, dull rufous, with punctured striæ, of which the third and fourth are confluent before the tip: feet and venter on the margin rufous.

Length seven-twentieths of an inch.

The posterior thoracic angles are unusually short and rounded.

[Belongs to *Limonius*.—LEC.]

26. *F. VERNALIS* Hentz.—Also inhabits Indiana. I obtained several specimens in the autumn, on the root of an overturned tree.

[Belongs to *Corymbites*.—LEC.]

27. *E. HIEROGLYPHICUS* Harris, Catal.—Bronzed-black; elytra pale rufous, with two undulated black bands.

Inhabits Massachusetts and New Hampshire. Harris. Pennsylvania.

Body short, robust: head with yellow or prostrate hair: clypeus angulated before and but little elevated: antennæ rufous; second joint half as long as the third; last joint not larger than the preceding one: thorax convex, covered with prostrate, yellow hair, lateral edge regularly but not prominently arcuated; posterior angles excurved, subacute, slightly carinated, with a small sinus at their inner origin: elytra pale yellowish rufous, striated; striæ with very distinct punctures, third and fourth confluent before the tip; interstitial spaces punctured; a blackish undulated band from the humerus, is connected by a subsutural blackish vitta, with another undulated band behind the middle, which is decurrent along the suture nearly to the tip; beneath tinged with rufous; feet rufous.

Length less than half an inch.

In some specimens the posterior band is also decurrent along the exterior margin nearly to the tip.

[Also a *Corymbites*.—LEC.]

1836.]

28. *E. CHORIS*.—Thorax rugulous, black, with yellow hairs; elytra yellowish, bifasciate with black.

Inhabits Indiana.

Body black: antennæ piceous, dull yellowish at base: thorax longitudinally rugulous, black, with numerous, golden, prostrate hairs; posterior angles acute, but not much elongated; carinated line prominent, elongated, arcuated: elytra pale yellowish, with a black spot at base, an angulated band on the middle, interrupted into a spot towards the suture, and another black angulated band, dilated near the suture, which it does not reach, but passes abruptly backwards towards the tip; striæ as broad as the interstitial lines; beneath tinged with piceous: feet pale yellowish.

Length one-fifth of an inch.

I took three individuals.

[A species of *Cryptohypnus*.—LEC.]

29. *E. DORSALIS* nob. Jour. Acad. Nat. Sci.—This name was given by [173] Paykull to an insect which proved to be the *marginatus* Fabr. But if it be determined, nevertheless, that the present name be changed, that of *mellillus* may be substituted. It is found in Indiana, and I obtained a specimen at New Orleans. Ante, 108.]

30. *E. PECTORALIS*.—Yellowish; thorax rounded; head and elytral band black.

Inhabits Missouri.

Body yellowish, with a slight rufous tinge; punctures hardly perceptible: head blackish-piceous: clypeus very obtusely rounded at tip to the eyes: antennæ and palpi pale yellow: thorax with the lateral edge much and regularly arcuated to the origin of the spines, where it becomes a little excurved; spines short, acute, carinated: scutel suborbicular: elytra with obsolete striæ; a transverse black band behind the middle running down the suture and exterior margin; pectus with the middle segment dilated.

Length less than one-tenth of an inch.

Resembles *areolatus* nob., but is much smaller, the thorax more rounded, the spines smaller, the middle segment of the pectus is

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dilated, &c. A variety from Dr. Harris has the elytral fascia extending to the tip, and in size is a little longer.

[Belongs to *Cryptohypnus*.—LEC.]

31. *E. CURIATUS*.—Blackish; elytra yellowish, with a black band; thorax with a fissure each side at base.

Inhabits United States.

Body blackish-livid, with minute punctures: clypeus obtusely rounded, edge reflected: antennæ rufous, rather robust, a little serrate; second joint two-thirds the length of the third; ultimate joint hardly longer than the preceding one: thorax with a fissure in the posterior edge near the spines; spines not carinate, but the lateral edge is somewhat reflected: scutell oblong, concave: elytra with well impressed, punctured striæ; yellowish-white, with a dusky band on the middle expanding a little on the margin and suture: feet pale yellow.

Length three-tenths of an inch.

I obtained three specimens in June.

[A species of *Cardiophorus* which was afterwards cited by Erichson as *Elater areolatus* Say, to which it bears no resemblance. It is the only species from the Atlantic slope of the United States known to me, having the unguis toothed: Say has given an incorrect measurement; it should read, length three-twentieths of an inch.—LEC.]

32. *E. SANGUINIPENNIS* nob. Jour. Acad. Nat. Sci.—Closely resembles *præustus* Fabr., which however, has the colors much more vivid; the punctures rather larger and more dense, particularly those of the interstitial lines of the elytra; the thoracic spines longer; and the second and third joints of the antennæ of our species are more cylindrical. [174]

33. *E. INFLATUS* nob. Ann. Lye. Nat. Hist.—Resembles *holosericeus* Fabr., but is still more robust, the thoracic spines are longer, and the thoracic punctures more obvious.

Inhabits also Massachusetts. Harris.

34. *E. FENESTRATUS* nob. (Ibid.)—As respects the elytral spot, it may be compared to the *biguttatus* Fabr., but is not much longer than the head and thorax of that species.

[No such species is described by Say.—LEC.]

32. *E. OBLIQUUS*.—Piceous; thoracic disk and elytra blackish; the latter with an oblique spot before the middle.

Inhabits Indiana.

Body yellowish-piceous, punctured, with yellowish hairs: head black: clypeus not much elevated, obtusely angulated at tip: labrum piceous: antennæ distinctly serrate; second joint two-thirds the length of the third; fourth to tenth subequal; ultimate one not suddenly contracted near the tip: thorax blackish on the disk; lateral edge arcuated near the anterior angles, rectilinear from before the middle to the tip of the spines; spines moderate, not distinctly carinate: elytra with punctured striæ, and slightly punctured interstitial lines; a very oblique yellowish band from the humerus, gradually dilating to the suture, and terminating before the middle, leaving a rather large black scutellar area: pectus paler than the postpectus: feet paler than the pectus: tarsi and nails simple: venter with an obsolete darker vitta each side.

Length nearly one-fifth of an inch.

This species somewhat resembles the *areolatus* nob.

To this division of the genus must be added those species which I have described under the following names, viz.:—*badius*, *erosus*, *rotundicollis*, *plebejus*, *erytropus*, *collaris*, *rubricus*, *mendica*, *silaceus*, *quercinus*, *basilaris*, and *areolatus*, as well as the *stigma* and *nigricollis* of Herbst.

[Say has described no species under the name of *mendica*.—LEC.]

†† *Tarsal joints lobed beneath.*

36. *E. LOBATUS* nob.—This species Germar thinks is the *castanipes* Herbst.; but it certainly cannot be *castanipes* Fabr. The anterior part of the clypeus agrees with that of *Campylus* Fischer.

37. *E. BILOBATUS*.—Dark chestnut; front indented; spines obtuse; second and third joints of the tarsi lobed beneath.

Inhabits Indiana.

Body dark chestnut, punctured, with numerous short hairs: head [175] with large, very dense punctures: front a little concave: clypeus not prominent, rather depressed between the antennæ: antennæ a little paler; second joint rather more than half as long as the third; terminal joint abruptly smaller near the

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tip, so as to appear like two joints: thorax with the punctures as large as those of the head, but less dense; spines obtuse, not elongated, destitute of carina: elytra with deep striæ, in which are rather large, close set punctures; interstitial lines convex with minute punctures: feet, color of the antennæ, honey-yellow; second and third tarsal joints extended beneath into a membranaceous, rounded pulvillus.

Length less than seven-tenths of an inch.

This species may be distinguished by the obtuse thoracic spines, and the lobed second and third tarsal joints.

[Belongs to *Asuphes*.—LEC.]

38. *E. INQUINATUS*.—Honey-yellowish, head and suture blackish.

Inhabits United States.

Body small, honey-yellow, with short hair: head dusky or blackish: antennæ pale: clypeus terminating anteriorly in a rectangle: thorax dusky on the anterior margin; lateral edge rectilinear; posterior angles acute; base each side with an elongated fissure: elytra, striæ distinctly punctured; sutural margin widely dusky at base, and tapering to the tip: beneath reddish brown: feet yellowish; tarsi with the penultimate joint only, obviously lobed.

Length under one-fifth of an inch.

This species occurs in Pennsylvania, and Dr. Harris obtained it in New Hampshire, and from North Carolina.

[I received from Dr. Harris a specimen of *Dolopius pauper* Lec., as this species, but as the tarsi are not lobed it cannot be so referred: I am rather inclined to believe it the same as *Elater recticollis* Say, which is an *Adrastus*.—LEC.]

39. *E. MEMNONIUS*.—Brown, more or less dark: antennæ rufous, compressed; length of the joints at least twice their terminal breadth; longer than the thorax: head densely punctured; front concave, anterior edge depressed in the middle by the concavity, but still elevated: thorax densely, not confluent punctured, convex, laterally arcuated, widest in the middle; posterior angles very little excurved, and at their tips somewhat incurved; carinated line nearly parallel with the edge, elevated and acute; basal edge with an acute sinus near the posterior 1836.]

angles : elytra with punctured impressed striæ ; punctures nearer each other than their own length ; interstitial spaces convex, densely punctured ; third and fourth striæ abbreviated and confluent at tip ; apical margin a little elevated : beneath, margins and feet paler.

Length less than four-fifths of an inch.

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E. nemnonius Herbst, Melsh. Catal. p. 42.

Inhabits Middle States.

Terminal joint of the antennæ abruptly smaller at tip, and the thorax is longitudinally indented behind the middle.

[The type of *Asaphes* Kirby, and described by him as *A. ruficornis*.—LEC.]

40. *E. BARIDIUS*.—Resembles the preceding, but is much larger, more robust, the thorax more rounded each side, the second and third striæ of the elytra abbreviated and confluent at tip.

Length over nine-tenths of an inch.

Of this I have seen but one specimen, which was sent me for examination by Dr. Harris. It was taken in North Carolina.

[Also an *Asaphes*, and subsequently described as *Hemicrepidius Thomasi* Germ.—LEC.]

41. *E. HEMIPODUS* nob. (Ann. Lyc. N. Y.)—Black-brown ; antennæ with obconic-compressed joints ; not obviously serrate ; second joint more than half the length of the third : thoracic spines rather short and obtuse : the carina parallel with the outer edge : tarsi, first, second and third joints extended beneath into pulvilli : thorax with a slight fissure on the basal margin, near the posterior angles.

[Also an *Asaphes*.—LEC.]

42. *E. SOLEATUS*.—Chestnut ; clypeus prominent, rounded, second and third tarsal joints extended beneath into a prominent lobe.

Inhabits Indiana.

Body dark chestnut brown, punctured ; with very numerous, short hairs, not prostrate : clypeus prominent before, and obtusely rounded : antennæ a little serrate, rufous ; second joint not longer than broad, not more than half the length of the third :

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thorax rather convex, dorsal indentation none, excepting sometimes a very slight one at base; lateral edge rectilinear from before the middle to the tip of the spines; spines not excurved, prominent, subacute, carinate; the carina nearly parallel to the exterior edge: indentation between the thorax and abdomen deep; scutel somewhat indented: elytra with punctured striæ, and with minutely and irregularly punctured interstitial lines; beneath rufous; second and third joints of the tarsi each extending beneath into a prominent, flattened, membranaceous lobe, that of the third much more obvious, rounded at tip, and extending much beyond the tip of the penultimate joint, which is very small.

Length from seven-twentieths, to more than eleven-twentieths of an inch.

This varies considerably in size, and the prominent obtuse clypeus, together with the elongated, membranaceous lobe of the antepenultimate [177] tarsal joint distinguish it from other species. Resembles *cucullatus*.

[Belongs to *Dicrepidius*.—LEC.]

43. *E. CUCULLATUS* nob. (Ann. Lyc. N. Y.)—May be distinguished from *soleatus* by the clypeus being obviously indented above, and more obtuse, almost emarginate on the anterior edge; the antennæ are more slender, and the last joint not, or hardly longer than the preceding one: thorax more slender, and the spines more obtuse, shorter, and rounded at tip: the larger lobe of the tarsi is not so prominent. The thoracic spines resemble those of *hæmorrhoidalis* Fabr., but are more excurved.

[A species of *Pedetes*, ante, 1, 397.—LEC.]

44. *E. DILECTUS* nob. (Ibid.)—The penultimate tarsal joint of this species is produced beneath into a membranaceous lobe. Near the description of *bilineatus* Web., Fabr.

[A *Monocrepidius*, ante, 1, 395.—LEC.]

45. *E. VESPERTINUS* Fabr.—The penultimate tarsal joint is minute, but is extended beneath into a dilated membranaceous lobe, half the length of the last joint. This species varies considerably; the elytra have generally a connecting black band beyond the middle; they are rarely nearly all black, with one or 1836.]

two small spots, tip and humerus testaceous: the thoracic vittæ are sometimes reduced to very small spots: scutel always testaceous.

[Also a *Monocrepidius*.—LEC.]

46. *E. CIRCUMSCRIPTUS* Germ.—The penultimate tarsal joint is at least half the length of the last, and is produced beneath into a lobe.

[Nothing of the kind exists in the species that I consider as Germar's, and which that author places in *Cryptohypnus*: for me it is a *Monocrepidius*, without tarsal lobes. What insect Say had in view, I am unable to determine.—LEC.]

46. *E. BISECTUS* nob. (Journ. Acad. Nat. Sc.)—Penultimate tarsal joint remarkably short above, hardly visible, but produced beneath into a dilated lobe, two-thirds the length of the ultimate joint. [Ante, 113.]

48. *E. EXTRIATUS* nob.—This is the *E. geminatus* nob. (Ann. Lyc. N. Y.) Elytra destitute of striæ; joints of the tarsi, excepting the terminal one, with dilated lobes beneath. I change the name, as that of *geminatus* was previously given by Germar to a Brazilian species.

[Belongs to *Lissomus*.—LEC.]

49. *E. BELLUS* S. (Journ. Acad. Nat. Sc. iii. p. 168.)—The penultimate tarsal joint is dilated beneath into a lobe. A very pretty little species.

50. *E. BINUS*.—Black; with two large testaceous spots on each elytron.

Inhabits Indiana.

Body black, with short yellowish hairs, almost sericeous, punctured: clypeus rounded at tip, somewhat prominent: antennæ scarcely serrate, rufous; second joint more than half as long as the third; terminal joint [178] not, or hardly longer than the penultimate one: thorax on the lateral edge rectilinear from before the middle to the tip of the posterior spine, which is rather long, acute, carinate: scutel black: elytra with punctured striæ, and minutely punctured interstitial lines; on each a large testaceous spot, extending from the base nearly to the middle, not reaching the suture, and a smaller one beyond the middle: pec-

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tus in the middle piceous : feet honey-yellow : tarsi, penultimate joint minute, but extended beneath into a lobe, almost half the length of the ultimate joint.

Length from one-fourth to two-fifths of an inch.

[Belongs to *Dicrepidius*.—LEC.]

51. E. SCAPULARIS.—Clypeus concave ; antennæ longer than the thorax ; humerus yellowish.

Inhabits Indiana.

Head greenish black : clypeus somewhat prominent, obtusely rounded at tip, much indented above : antennæ longer than the thorax, serrate ; second joint one-third the length of the third, which is dilated at tip like the following ones, and somewhat longer than the fourth : thorax greenish black, rather long ; sides a little contracted before the spines ; spines robust, not attenuated, rounded at tip and yellowish : scutel piceous : elytra dull yellowish on the basal margin ; with rather deep striæ, punctured ; interstitial lines rounded with transversely confluent punctures : feet piceous : tarsi with the second, third, and fourth joints dilated beneath into rather short lobes, that of the third much wider and more prominent ; fourth joint more than half the length of the third ; ultimate joint equal in length to the first, and equal to the second, third and fourth taken together.

Length less than two-fifths of an inch.

This is rather slender, and the yellowish bases of the elytra are distinguishing and obvious characters.

[Belongs to *Pedetes*.—LEC.]

52. E. ACANTHUS.—Brown ; clypeus concave above ; spines compressed, short, rounded.

Inhabits Indiana.

Body rather slender, punctured : head blackish brown, with small punctures more distant than the length of their diameters : clypeus prominent, obtusely rounded before and concave above : antennæ longer than the thorax, not serrate ; second joint more than half the length of the third : thorax blackish-brown ; long, lateral edge rectilinear, hardly broader behind than before ; anterior angles a little prominent, and slightly truncate ; punctures not discoidal, small, profound, and more [179] distant than the length of their own diameters ; spines very short, rounded at 1836.]

tip, compressed, without carina, and reflected a little from the side: elytra paler, with dilated, punctured striæ, and transverse wrinkles on the interstitial spaces: beneath, excepting the pectus, rather paler than the elytra: tarsi, second and third joints produced beneath into membranaceous lobes, that of the third more prominent; fourth joint minute, hardly wider than the base of the ultimate joint.

Length three-tenths of an inch.

Very much like *cucullatus* S.; is smaller and more slender; the punctures of the head and thorax are not discoidal, as in that species, and the thoracic spines are entirely destitute of carina, are more obtuse, compressed, and reflected from the sides. Rare.

[Also a *Pedetes*.—LEC.]

53. E. CLARICOLLIS.—Black; antennæ, mouth, and feet yellowish; thoracic spines very short, without carina.

Inhabits Indiana.

Body black, polished; punctures minute and remote: clypeus not prominent, tip a little reflected and rounded: antennæ hardly as long as the thorax, not serrate, yellowish; first joint robust; second joint but little shorter than the third; terminal joint not longer than the penultimate one: mouth, excepting the tip of the mandibles, honey-yellow: thorax polished, a little narrowed at the anterior angles; lateral edge almost rectilinear, or hardly perceptibly arcuated from near the anterior angles to the base; spines very short, obtusely rounded, without any carina: scutellum large, angulated behind: elytra with punctured striæ; interstitial lines with minute distant punctures: pectus, in the middle near the mouth, honey-yellow: feet pale yellow; tarsi, fourth joint small, but produced beneath into a dilated lobe; terminal joint shorter than the first.

Length one-fourth of an inch.

The thorax is remarkably polished.

[Unknown to me; probably a *Monocrepidius*.—LEC.]

54. E. FINITIMUS.—Dusky, obsoletely margined with rufous; tarsi, fourth joint lobate.

Inhabits North Carolina.

Body with dense, small punctures, black brown; vertex longi-

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tudinally indented : clypeus obtusely rounded before, prominent : antennæ pale rufous, third joint a little longer than the second, terminal joint not obviously contracted abruptly towards the tip : thorax rather narrowed anteriorly, with an obsolete, dull, rufous margin and dorsal line ; [180] posterior angles very slightly ex-curved, rather long, acute, with the carinated line very near to the edge : scutel dull rufous : elytra with the striæ impressed, not confluent, and in which the punctures are not very obvious ; interstitial lines depressed ; an obsolete, rufous, humeral spot, and another on the middle of the exterior submargin : beneath pale rufous : feet paler ; penultimate joint of the tarsi with a membranaceous lobe.

Length three-tenths of an inch.

The body is more elongated than either *dilectus* S., or *bisectus* S. I am indebted to Dr. Harris for an opportunity to examine a specimen.

[This is a variety of *Monocrepidius vespertinus*.—LEC.]

55. *E. DECOLORATUS* Harris MSS.—Black ; elytra, antennæ and feet rufous.

Inhabits New Hampshire and Pennsylvania.

Body blackish, with pale hairs and minute punctures : clypeus with larger punctures than the thorax ; two obsoletely impressed diverging lines ; anterior edge subangulated, and the angles so depressed as to appear confluent with the anterior part of the head : antennæ rufous, a little hairy ; second joint two-thirds the length of the third ; last joint longer than the first, not abruptly contracted towards the tip : thorax convex blackish ; base with a fissure each side ; posterior angles pointing backward, rather obtuse and somewhat broad, with the carinated line rather short, and not much elevated ; elytra dull rufous ; impressed, slightly punctured striæ, more deeply indented at base, and the third and fourth confluent before the tip : feet pale rufous ; fourth joint of the tarsi not so distinctly lobed as the preceding joints.

Length half an inch.

Rare in Pennsylvania. Approaches the description of *E. semirufus* Germar, which, however, I believe to be smaller.

[Belongs to *Asaphes*.—LEC.]

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††† *Tarsi dilated, operculiform.*

56. *E. MARMORATUS* F.—Our largest species of this division that I have seen. I have found it as far north as Canada, and Mr. Nuttall presented me a specimen from Arkansa. It occurs both in Pennsylvania and Indiana, and Dr. Harris sent me a specimen which was found in N. Carolina. The thorax may be described as unequal, as it has several indentations; the pectus has deeply impressed tarsal grooves; the clypeus is concave. [181]

57. *E. OPERCULATUS* S., Ann. Lyc. N. Y.*—Belongs to this division. Dr. Harris sent me specimens from Massachusetts and New Hampshire.

[Probably the species afterwards described by me as *Adelocera brevicornis* is here intended.—LEC.]

58. *E. AURORATUS*.—Blackish, sprinkled with golden scales; pectoral tarsal impressions not profound.

Inhabits New Hampshire.

Body blackish, punctured, with bright yellow scales: clypeus not conspicuously concave before: thorax convex; a longitudinal, impressed, but not much dilated line, obsolete on the anterior third; lateral edge regularly arcuated to the origin of the posterior angles, which are rather broad, acute, and extending outward and backward, with their exterior edge perfectly rectilinear to the tip, basal edge sinuous; elytra destitute of elevated lines at base: pectus, tarsal impressions not deeply marked, but distinct, concave: tarsi rufous.

Length eleven-twentieths of an inch.

Sent to me for examination by Dr. Harris. The lateral edge of the thorax is not undulately arcuated as in *E. marmoratus* F., and *E. operculatus* S.

[Belongs with the two following species to *Adelocera*.—LEC.]

59. *E. OBTECTUS*.—Thorax with a much dilated groove; elytra with elevated lines at base, one of which extends beyond the middle.

Inhabits Massachusetts.

* [This is an error. There is no species in the Ann. Lyc. N. Y. bearing the name of *operculatus*.] Is it not the *erosus* S. Ann. Lyc. i., p. 258?—H.]

Body blackish piceous: clypeus transversely concave before: thorax rather short and wide; dorsal groove much dilated, the top of its lateral elevations being equidistant from the middle of the exterior edge; exterior edge arcuated, not undulated; lateral margin broadly depressed; posterior angles rather broad, extending outwards and backwards, their exterior edge rectilinear to the tip: elytra with elevated, obtuse lines at base, one of which is obliquely elongated and is obsolete behind the middle: tarsal groove of the pectus none.

Length three-fifths of an inch.

For this species I am indebted to Dr. Harris. It is as large as *marmoratus* F., and *operculatus* S., to the latter of which it approaches in being destitute of the tarsal grooves of the pectus, and in the short wide thorax; but it differs from it in the more regular arcuation of the lateral edge of the thorax, the exterior edge of the posterior angles [182] being rectilinear, and in the crimped appearance of the base of the elytra, &c.

60. *E. DISCOIDEUS* Weber.*—Remarkable by the golden hairy head and sides of the thorax. This is the *pennatus* Fabr.; but Weber's name has the priority, and must therefore be adopted.

61. *E. LEPTURUS*. Blackish; spines acute; elytra with approximated series of punctures.

Inhabits United States, Pennsylvania, Indiana, and North Carolina. Harris.

Body black-brown, punctured, rather slender: clypeus concave, truncate at tip, and emarginate each side at the insertion of the antennæ: antennæ rufous, serrate; second joint not half the length of the third: thorax with a dorsal, slightly indented line; lateral edge not arcuated; a little narrowed before, and contracted at the spines; spines excurved, acute: scutel rounded behind: elytra with approximate series of deep punctures, with an appearance of striæ, the series alternately larger: pectus, tarsal grooves obvious.

* "Observationes Entomologicæ." This work, which was presented to me by Professor Wiedemann, was published in the same year with the *Syst. Eleut.*; but, as Fabricius quotes Weber's work, the priority of the latter is evident.

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Length two-fifths of an inch.

Resembles *discoideus* Weber, but is always destitute of the golden hair of the head and thorax. It is the *lepturus* of Melshheimer's Catalogue.

[An *Adelocera*, but does not differ from *A. impressicollis*.—LEC.]

62. *E. IMPRESSICOLLIS* S., Ann. Lyc. N. Y. i., p. 260.—Resembles *lepturus* S.; but may be distinguished by its ferruginous color.

63. *E. RECTANGULARIS* S. Ann. Lyc. N. Y. i. p. 260.—The posterior angles of the thorax are rectangular, and the antennæ remarkably short.

[Belongs to *Lacon*.—LEC.]

64. *E. AVITUS*.—Blackish; rather long; scales yellow and black; spines acute, hardly excurved.

Inhabits Indiana.

Body black, with a slight tinge of piceous, punctured; scales intermixed, black and bright yellow; rather slender: clypeus hardly elevated before; anterior edge very obtusely arcuated, a little concave; antennæ serrate, rufous; second joint small, subglobular, thorax with an obtusely indented line behind the middle; lateral edge very slightly arcuated, and slightly excurved at the spines; spines very slightly excurved, acute, not carinated: scutel concave, rounded behind; elytra [183] with hardly perceptible, raised lines: punctures profound, densely and irregularly set: feet piceous: pectus, tarsal grooves none.

Length eleven-twentieths of an inch.

Smaller than *E. marmoratus* F., and more slender, with a more equal thorax; larger than *E. lepturus* S., *discoideus* Weber, *impressicollis* S., and *rectangularis* S., and the punctures of the elytra are not in regular series. It seems to approach nearer to *E. operculatus* S., but the elytra are more obtuse at tip, and have much more profound, large, and close set punctures. I have not now an entire specimen of the latter species, and therefore cannot compare with the anterior part of the body.

[A species of *Adelocera*.—LEC.]

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† † † † *Claws pectinated.*

[The species of this division, except 69 and 70, belong to *Cratonychus*.—LEC.]

65. *E. CORTICINUS* S. (Journ. Acad. Nat. Sc., iii., p. 174.)—The second and third joints of the antennæ are rounded, equal. The basal margin of the thorax has a fissure each side, near the lateral spines. It varies in size. The smallest one that I have seen is seven-twentieths of an inch. Can it be the *dispar* of Herbst?

66. *E. CINEREUS* Weber.—Second joint of the antennæ about half the length of the third: the thorax is more rounded at the sides than the preceding. It varies considerably in size. The basal margin of the thorax has a fissure each side.

Length from three-tenths to seven-tenths of an inch.

The former size is rare; but the more usual length is about half an inch.

This is the *vulgaris* and *pilosus* of Melsheimer's Catalogue. It resembles the *brunnipes* Ziegler; but the thoracic punctures are rather larger, and less crowded, the thoracic spines are longer and more acute, and the second joint of the antennæ is a little longer in proportion to the third.*

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*[Among Mr. Say's manuscripts is a description of the *cinereus*, under the rejected name of *fissilis*, which, as it contains the characters of this species somewhat in detail, it may be proper to insert here.]

E. fissilis.—Brown; base of the thorax with a fissure near the posterior angles.

Inhabits the United States.

Body chestnut-brown, punctured, somewhat sericeous with short hairs: head convex: clypeus rounded at tip: antennæ rufous; second joint half as long as the third; ultimate joint not abruptly contracted near the tip: thorax with the lateral edge regularly arcuated, not [184] contracted near the spines; spines rather short and somewhat obtuse, sub-bicarinate; basal margin, near the lateral spines, with a distinct fissure: elytra with punctured striæ, and depressed, minutely punctured interstitial lines; suture somewhat paler: feet dull rufous: tarsi beneath with rather dense hairs: nails pectinated.

Length over half an inch.

The thoracic fissures readily distinguish this species. I formerly marked it in my cabinet interrogatively as the *brevicollis* Herbst; but it can hardly be that species, as no notice is taken of the fissures. Can it be the *cinereus* Weber?

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67. *E. COMMUNIS* Schönherr, is much like the preceding, but the thorax is canaliculate.

68. *E. INSIPIENS* S. (Ann. Lyc. N. Y., i., p. 267.)—The fissure in the posterior margin of the thorax, near the spines, is distinct.

69. *E. RECTICOLLIS* S. (Journ. Acad. Nat. Sc., iii., p. 168.)*

Distinguished from the preceding species by the lobed joints of the tarsi. In those species the joints have projecting hairs beneath, but not lobes. The clypeus descends rather low, and is almost rectangular at tip.

[Belongs to *Adrastus*.—LEC.]

70. *E. QUIETUS*.—Black; antennæ and labrum rufous; palpi and feet pale yellow.

Inhabits Indiana.

Body black-brown; sericeous with short, yellowish hairs; slender; with numerous, minute, but not close set punctures: clypeus very obtusely angulated in front, almost rounded: an-

*[The following description, which was marked to be omitted by Mr. Say, contains several characters not laid down in the Journal of the Acad. Nat. Sciences on the page above quoted. It seems to apply rather to a variety of the *recticollis* that was proposed originally by Mr. Say as a distinct species, under the name of *E. inscius*, but was subsequently referred to the previously described *E. recticollis*. For the reasons above stated, it may be useful to insert the rejected description in this place. T. W. H.]

E. RECTICOLLIS (*inscius* S., MSS.). Brown; clypeus subangulated before; suture dusky.

Inhabits Indiana.

Body light brown, somewhat sericeous, with yellowish hairs, and with numerous minute punctures: clypeus but little elevated, tip obtusely angulated: antennæ hardly serrate, pale rufous; first joint rather long, arcuated, robust; second and third joints subequal: head dusky: thorax dusky on the middle; lateral edge nearly rectilinear, arcuated at the anterior angles, and a little excurved at the spines; not elongated; spines acute, not carinate; posterior edge with a fissure from which a line extends forward upon the margin: elytra with punctured striae and minute punctures on the interstitial lines; sutural margin dusky: beneath piceous: pectus honey-yellow: feet honey-yellow: tarsi, third and fourth joints lobed beneath.

Length less than one-fourth of an inch.

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tennæ rufous, not serrate; first joint rather long, and a little arcuated; second and third joints subequal, the second rather longer and more robust: labrum rufous, prominent: thorax rectilinear on the lateral edge from near the anterior [185] angles, where it is hardly arcuated, to the tip of the spines; spines acute, carinate; the carina, as in the preceding species, forms the apparent edge, and extends more than half the length of the thorax; posterior edge with a fissure each side, extending in an obvious line upon the margin: scutel angulated obtusely behind: elytra with punctured striæ and minutely punctured interstitial lines: beneath black piceous: feet pale yellow; tarsi, third and fourth joints lobed beneath; nails pectinated with but few rather robust teeth.

Length less than one-fifth of an inch.

Closely resembles the preceding, but is more slender, the pectens of the nails have fewer teeth, and the clypeus is much more obtuse at tip, and the color is different.

[Also an *Adrastus*.—LEC.]

71. *E. PERTINAX*.—Black; antennæ and feet rufous; punctures sparse.

Inhabits Pennsylvania. Massachusetts, Harris.

Body black, immaculate, with distant grayish hairs: clypeus with large punctures, anteriorly obtusely rounded and elevated, the edge a little reflected: antennæ rufous; third joint a little longer than the second: thorax with distant punctures and hairs; lateral edge nearly rectilinear behind the middle, the posterior angles divaricating but slightly outwards; base with the lateral fissures rather long: elytra with regular series of punctures, the striæ not being impressed, excepting at base and the sutural one: feet rufous.

Length seven-twentieths of an inch.

72. *E. TENAX*.—Black; antennæ and feet rufous; posterior thoracic angles not excurved.

Inhabits Massachusetts.

Closely resembles *E. pertinax* S., but is much smaller; the punctures of the thorax are much more numerous, the posterior angles not at all excurved: elytra with the striæ distinctly im-
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pressed and punctured, the interstitial spaces with rather large punctures: feet rufous.

Length less than three-tenths of an inch.

For this species I am indebted to Dr. Harris.

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EUCNEMIS Ahrens? Mannerheim.

† *Pectus not inflected at the edge, nor canaliculate beneath, to receive the antennæ.*

* *Tarsi simple.*

1. E. MUSCIDUS S. (*Elater muscidus* Ann. Lyc. N. Y., i. p. 256.) The largest known species of the United States.

2. E. UNICOLOR S. (*Elater unicolor* Ann. Lyc. N. Y. i. p. 255.) Also a large species.

3. E. HETERO CERUS.—Light brown, sericeous; three last joints of the antennæ largest.

Inhabits Indiana.

Body light reddish brown, sericeous, with bright yellow hair; punctures minute, universal: antennæ, first joint as long as the three next together; second joint smallest; third nearly as long as the two next; fourth, fifth, sixth, seventh and eighth short, equal; remaining joints each nearly as long as three of the preceding ones together, and somewhat dilated: thorax with an indented line at base; spines prominent, acute: scutellum rounded behind: elytra with impunctured striæ: pectus on the lateral margin slightly concave.

Length half an inch.

The singular form of the antennæ will distinguish this fine species from any other yet known. It will form a separate genus.

[Belongs to *Phlegon* Lap., a genus which I afterwards described as *Euryptychus*.—LEC.]

4. E. QUADRICOLLIS.—Head and thorax with large crowded punctures; posterior thoracic angles nearly rectangular.

Inhabits Indiana.

Body piceous black, with yellowish hairs: head with crowded, large punctures, longitudinally confluent on the vertex: antennæ rather distant at base, not seated in approximated sinuses, but

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under frontal elevations; second joint more robust than the third, and equally long; fourth joint rather longer than the third; remaining joints obconic, subequal, the last a little longer: palpi, terminal joint oval: thorax transverse quadrate, with punctures like those of the head, but not much confluent; anterior angles rounded; lateral edges nearly parallel, very slightly contracted towards the posterior angles, which are nearly rectangular, a little acute, not continued backward beyond the line of the base: elytra with punctured striæ and minutely punctured interstitial lines: pectus with less crowded punctures than the thorax: [187] middle segment very broad; no groove: feet, like all beneath, dark piceous: tarsi a little paler.

Length over one-fourth of an inch.

This species is not perhaps in all its characters perfectly coincident with those of the genus, particularly in the remote origin of the antennæ; but the form of the præsternum and the great inflection of the head agree very well.

[Unknown to me.—LEC.]

5. *E. FRONTOSUS*.—Antennæ submoniliform; thorax indented each side of the middle.

Inhabits Indiana.

Body blackish piceous, with short yellowish hair, punctured: front longitudinally indented: antennæ ferruginous, serratomoniliform; basal joint arcuated, obliquely truncated at tip; second joint arcuated at base: thorax with a longitudinal impressed line, and an indentation each side of the middle; posterior angles prominent: elytra, striæ not deeply impressed: feet piceous.

Length one-fifth of an inch.

The very short and submoniliform joints of the antennæ, as well as the general form of the body, give to this species a resemblance to the *monilicornis* Mannerh., but the thoracic indentations, &c., distinguish it.

[Belongs to *Emathion*, and was afterwards described by me as *Epiphanis canaliculatus*.—LEC.]

6. *E. RUFICORNIS* S. (*Melasis ruficornis*, Journ. Acad. N. S. iii. p. 165.)—This species having a very small spine, and slight indentation instead of a recipient cavity, may perhaps be placed

here. By the very robust antennæ it seems to approach the genus *Nematodes* Latr.

[This and the next belong to *Tharops*.—LEC.]

7. E. OBLIQUUS.—Elytra black, inner portion, bounded by a line from the middle of the base to beyond the middle of the length, yellowish.

Inhabits Indiana.

Length less than one-fifth of an inch.

In general form, and in its antennæ, this species resembles the *ruficornis* S.

* * *Tarsi, terminal joint short and dilated.*

8. E. ATROPOS.—Thorax with two impressed dots and dorsal line.

Inhabits Indiana.

Body blackish piceous, somewhat sericeous, with bright yellow hair, minutely punctured: head with the hairs radiating from the middle of the front: antennæ, first joint as long as the three next together, hardly arcuated; second joint at least as long as the fourth; third nearly equal to the fourth and fifth together; remaining joints rather larger than the fourth and fifth: thorax convex before, almost vertical at the sides; [188] like the head, dark chestnut; a well impressed dot each side, a little before the middle; an impressed, acute, longitudinal line behind the middle, extending obsoletely to the anterior edge; spines prominent, acute: scutellum with a slightly impressed line: elytra blackish, with impunctured striæ; punctures towards the base somewhat transversely confluent: pectus with the lateral margin slightly concave: tarsi, penultimate joint extended beneath into a lobe, a little dilated and truncated.

Length three-tenths of an inch.

Behind each of the dots of the thorax is an abbreviated, obsolete, impressed, transverse line. The dots of the thorax are more anterior than those of the *pygmaeus* Fabr.

[Belongs to *Emathion*.—LEC.]

†† *Pectus canaliculate on the lateral margin.*

9. E. CALCEATUS.—Reddish brown: an elevated line on the front over the base of the antennæ.

Inhabits Indiana.

Body reddish brown, or chestnut, slightly sericeous, and with minute punctures: head blackish, with an obvious, transverse, raised, glabrous line over the antennæ, a little advanced in the middle: antennæ chestnut; first joint about as long as the head, somewhat robust, obliquely truncated at the end; second hardly shorter, but less robust than the third, attenuated and arcuated at base, at its junction with the first joint; fourth joint a little shorter than the third; remaining joints gradually a little longer to the tip, subequal: thorax dusky, not elevated; dorsal line hardly perceptible, even at base; spines prominent, acute: elytra rather slightly striate; striæ impunctured: beneath particularly sericeous: pectus with the lateral groove well marked: tarsi, penultimate joint with a short, rather broad lobe beneath.

Length from one-fifth to three-tenths of an inch.

[This is a species of *Fornax*, subsequently described by me as *Isarthrus spretus*. The lobe of the tarsi is not very obvious; so little so, that I failed to see it in my original specimen, though it is quite visible in some others in a better state of preservation than I have since examined.—LEC.]

10. E. CYLINDRICOLLIS.—Black; thorax longitudinally and widely indented behind.

Inhabits Indiana.

Body blackish, a little sericeous, subcylindric, minutely punctured: antennæ dark rufous, shorter than the thorax; first joint cylindrical, hardly arcuated, at base rather abruptly narrowed, at tip obliquely truncated, blackish; second joint obconic, attenuated and arcuated at base; third longer than the two following ones together; remaining ones to the last, subequal; terminal one nearly as long as the third: thorax [189] obscurely subiridescent, subcylindric, the sides being almost parallel; not remarkably elevated; behind the middle a much dilated, oblong triangular, rather deeply indented line, extending to the base; spines acute, not much elongated: scutel rounded at tip: elytra with the striæ obsolete, the subsutural obvious: pectus with the lateral groove very obvious: tibiæ and tarsi rufous; penultimate tarsal joint produced beneath into a dilated, obtuse lobe.

Length less than three-tenths of an inch.

The dilated elongate triangular indentation, or dilated dorsal

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line, extending from the undule to the base of the thorax, is probably somewhat similar to that of the *capucinus* Ahrens; but the general form is much more cylindric.

[Also a *Fornax*.—LEC.]

11. *E. CLYPEATUS* S. (*Elater c.*, Ann. Lyc. N. Y. i. p. 266.)

12. *E. AMENICORNIS*.—Black; antennæ pectinate, second and third joints, and feet rufous.

Inhabits Indiana and New Hampshire.

Body small, black, densely punctured above and beneath: antennæ with a process on each joint excepting the three basal ones, black, the second and third joints dull rufous: thorax convex, simple; posterior angles a little excurved, acute, without carinated line; base without fissures: elytra, third and fourth striæ only half the length of the elytra: feet rufous.

Length over three-twentieths of an inch.

Resembles *E. pygmæus* Fabr., but the thorax is without indentation. I obtained two specimens in Indiana, and received one from Dr. Harris.

[Belongs to *Eucnemis*; when laid on its back, this insect will make a feeble attempt to spring, like a genuine *Elater*.—LEC.]

† † † *Pectus canaliculate each side of the middle.*

13. *E. TRIANGULARIS* S. (*Elater t.*, Journ. Acad. N. S. iii. p. 170.)

Antennæ, first joint slightly arcuated, obliquely truncate at tip; second obconic, small, arcuated at base: thorax with an impressed line behind the middle; anterior margin piceous.

It occurs in Indiana as well as Missouri.

[Belongs to *Microrhagus*.—LEC.]

14. *E. HUMERALIS*.—Black; elytra rufous at base.

Inhabits Indiana.

Body black, minutely punctured, and with minute hairs; front with an obsolete indented line: antennæ rather hairy; first joint slightly arcuated, obliquely truncate at tip; second obconic, arcuated at base; third shorter than the two following ones together; remaining joints [190] subequal, to the last, which is a little longer; thorax convex, but not much elevated; elytra

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striate; basal fourth rufous; feet rufous: pectus distinctly canaliculate each side of the middle.

Length three-twentieths of an inch.

Note.—I am indebted to Count Mannerheim of St. Petersburg, Russia, for this excellent observations on this genus. His descriptions are detailed and perspicuous. I have adopted, for the present, his views of this genus.

[Also a *Microrhagus*.—LEC.]

THROSCUS Latr.

T. CONSTRICTOR.

This species is the approximate analogue of the *adstrictor* Fabr., of Europe, to which I had always referred it: but on comparing our insect with a specimen of the *adstrictor*, for which I am indebted to the politeness of Professor Germar, I am inclined to consider it a distinct species, and I give to it the above name, which that distinguished entomologist proposes in his letter. This insect, compared with the *adstrictor*, is of a paler color, and a little different in form; being less attenuated behind; in size it is much the same; it is also somewhat more obviously punctured.

[From Boston Journal of Natural History, Vol. 1, No. 2, May, 1835, pp. 151-203.]

Descriptions of new North American COLEOPTEROUS INSECTS, and
Observations on some already described.

Communicated Feb. 1835.

In this number we present to our readers a part of the hitherto unpublished entomological papers of the late Thomas Say. This distinguished and lamented American naturalist was engaged in preparing them for publication in the Boston Journal of Natural History, when his labors were prematurely arrested by the disease which proved fatal to him, on the tenth of October, 1834. In justice to his memory, it becomes our duty, without delay, to publish these posthumous papers, and thereby to secure to his names, as far as possible, the right of priority.

These papers consist of descriptions of New American Coleopterous and Hymenopterous insects, and remarks upon some already described. The Hymenoptera will appear in our next number.—*Pub. Committee.*

BRACHINUS Weber.

B. ALTERNANS? Dej.—A specimen occurred near New Orleans, which, so far as I have been able to compare [152] the characters, nearly corresponds with this species; but as the head is deficient in the specimen, I cannot determine positively; and, furthermore, the circumstance of the second and fourth elytral costæ not being obviously elevated, leads to a doubt.

SANDALUS Knoch.

1. S. PETROPHYA Knoch.—I observed this insect, frequently, on the flowers of a resinous plant common in the prairies of Missouri.

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2. S.? BRUNNEUS.—Blackish-brown; antennæ sericeous-brown; thorax with two indentations on the disk.

Inhabits Indiana.

Body blackish-brown, punctured, oblong; head with small punctures, rather prominent between the antennæ, above which it is somewhat indented; antennæ as long as the thorax or rather longer, brown sericeous; thorax with small punctures, anterior and posterior angles dentiform; disk with a small orbicular indentation each side behind the middle, and an irregular one on the basal middle; posterior margin each side of the middle a little concave; scutel orbicular; elytra with numerous somewhat large punctures; not in striæ, with four slightly elevated lines or nervures, the inner one abbreviated before the tip, the others confluent near the tips.

Length from two-fifths to three-fifths of an inch.

This insect approaches, in character, nearer to *Sandalus* than to any other genus. In that genus the mandibles are remarkably falcate, and the tooth is on the inner side, towards the base; they are also covered to the middle by a membrane or coriaceous process; the tibiæ are quadrilateral and denticulate, and the tarsi beneath are clothed with very dense hairs. In our insect the conformation of the antennæ is the same as in the female of *Sandalus*, excepting that they are much more elongated; the mandibles are less prominent, and have the tooth on the superior side near the tip, which is therefore emarginate, or rather bifid, and are destitute of any membranous covering at base; the tibiæ are not quadrangular, the tarsi are simple beneath, and the mentum is somewhat transversely oval, with a robust dentiform process before. It can be separated under the name of *Zenoa*.

I have found it under the bark of decaying trees.

Vid. Gen. *Analestes* Leach, or *Cebrio*. Probably *C. bicolor*, but it does not appear to agree with Fabricius's description.

[Previously described as *Melasis piceus* Beauv.; a variety was subsequently described by me as *Zenoa vulnerata*.—LEC.]

LYCUS Fabr.

1. L. MODESTUS.—Black; thorax fulvous, with a black disk.

Inhabits Ohio.

Body black, opaque; antennæ, second joint minute, nearly half
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the size of the third : mandibles ? rufous ; palpi, terminal joint rather oval than securiform ; thorax broader than long, as wide as the base of the elytra, reddish-fulvous, with a black disk extending to the base, disk a little convex, without any carinate line, each side a little concave, lateral edge nearly rectilinear, the posterior angles not excurved, and not very acute at tip, anterior edge regularly arcuated : elytra black, with elevated, longitudinal lines, and in the intervening spaces are numerous transverse, elevated lines, and a small longitudinal one ; wings black, tinged with rufous on the costal base. [154]

The insect was lost before the measure of its length was taken.

[Belongs to *Eros* Newman, *Anarhynchus* Guér.—LEC.]

2. *L. OBLIQUUS*.—Black ; margin of the thorax and basal margin of the elytra fulvous.

Inhabits Mexico.

Body rather slender, black ; antennæ compressed, serrate ; palpi white, terminal joint black ; thorax with a wide lateral fulvous margin and an elevated fulvous line in the middle, posterior angles rather prominent and acute ; elytra with elevated longitudinal lines and transverse ones in the intervening spaces, forming large subquadrate punctures ; a dilated fulvous margin at base, occupying the surface to the sutural stria, before the middle becoming narrower until it terminates on the costal edge beyond the middle ; coxæ white.

Length seven-twentieths of an inch.

Allied to *dimidiatus* Fabr., but the antennæ are not flabellate.

3. *L. CANALICULATUS*.—Black ; thorax with a yellowish margin and an impressed line on the basal margin.

Inhabits Missouri.

Mandibles pale ; antennæ serrate, third joint rather shorter than the fourth ; thorax yellowish rufous, a large, black, subquadrate spot on the disk, anterior edge very prominently arcuated ; basal margin with an abbreviated impressed longitudinal groove ; elytra with elevated longitudinal lines and intermediate transverse ones.

Length one-fourth of an inch.

[Also an *Eros*.—LEC.]

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OMALISUS Geoffr., F.

1. *O. MARGINELLUS* Fabr. (*Lycus*) Syst. Eleuth.

Inhabits Pennsylvania; Massachusetts, Harris. [155]

[This and the five following species belong to *Eros*.—LEC.]

2. *O. COCCINATUS*.—Sanguineous; head and beneath black.

Inhabits Pennsylvania and Indiana.

Body sanguineous; head black; mandibles pale reddish; thorax darker than the elytra, its depressions dusky; two longitudinal elevated lines, distant in the middle, and meeting on the anterior and posterior edges of the thorax, enclosing a rhomboidal space; from their middle an elevated line proceeds to the lateral edge; the margin elevated: scutel blackish: elytra with four elevated lines; interstitial spaces with a longitudinal slightly elevated line, and transverse ones about the distance of their own length from each other; wings blackish: beneath black.

Length over two-fifths of an inch.

3. *O. MUNDUS*.—Bright sanguineous; antennæ black.

Inhabits Indiana.

Body entirely bright sanguineous: antennæ, excepting the three basal joints, black: eyes black: thorax with two longitudinal elevated lines, distant in the middle and meeting before the anterior and posterior edges of the thorax, enclosing a rhomboidal space; from their middle an elevated line passes to the lateral edge, and an elevated abbreviated line on the posterior submargin: elytra with four elevated lines; interstitial spaces with a longitudinal, very slightly elevated line, and transverse ones, about the distance of their own length apart; venter black: tarsi dusky.

Length one-fourth of an inch.

Much like the preceding, but is only half as large, and its colors are differently arranged.

4. *O. HUMERALIS* F. (*Lycus*) Syst. Eleuth.

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Inhabits also Indiana; Massachusetts, Harris.

It varies in having the humeral margin obsolete.

5. *O. SCULPTILIS*.—Piceous; thorax with elevated lines, yellowish each side.

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O. pleurites? Knoch. in Melsh. Catal.

Inhabits Missouri and Pennsylvania.

Antennæ black, second joint minute; third joint as long as the others: head black; clypeus anteriorly a little produced, impressed in the middle; thorax with three elevated, parallel lines before the middle, and two behind the middle, a lateral somewhat oblique line proceeding to the lateral edge, which is obtusely a little contracted in that part: elytra with four elevated lines, interstitial spaces with transverse, elevated, somewhat irregular lines nearer to each other than their own length.

Length about one-fourth of an inch.

6. *O. OBLIQUUS*.—Black; base of the elytra and each side of the thorax yellowish.

Inhabits Indiana.

Body black: antennæ, second joint more than half as long as the third: front tinged with ferruginous: thorax reddish-yellow, with elevated lines enclosing a turbinate space in the middle, with an elevated line extending from its centre to the anterior edge, and an oblique one each side, extending to the lateral edge; edge elevated; disk black, extending to the base: elytra reddish-yellow on the basal half, terminated obliquely at the middle; elevated longitudinal lines and intermediate transverse ones; a quadrate black spot, including the black scutel.

Length less than two-fifths of an inch.

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PHENGODES Hoffm.

P. PLUMOSA Oliv.

P. testaceus Leach, Zool. Journ. 1824.

Not uncommon for a short period in the autumn. Attracted by the candle, they enter the house in the evening, and fly repeatedly against the ceiling in their efforts to escape.

LAMPYRIS Lin.

1. *L. TRILINEATA*.—Grayish-brown; elytra with the margin and three lines yellowish.

Inhabits Mexico.

Head on the front, pale carneous or yellowish: antennæ black-cinereous, basal joint whitish: thorax varied with dull yellowish,

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blackish and rosaceous, sometimes a blackish vitta trilobate at base, and a lateral marginal spot: scutellum blackish: elytra gray-brown, the edge and sometimes the margin all around, and two or three lines on each elytron, yellowish: beneath blackish, generally varied with rosaceous and yellowish.

Length over half an inch.

Var. *a*. An oblong-subquadrate, marginal, yellowish spot behind the humerus.

A large species, wider and shorter than *L. versicolor* Fabr., which it somewhat resembles in the character of the elytra, as it does *L. angulata* nob., in that of the thorax.

2. *L. BIFARIA*.—Antennæ with two processes from the base of each joint.

Inhabits North Carolina, Harris.

Body black, densely punctured: head with a carinate [153] line: antennæ at the base of each joint, excepting the first, second and ultimate ones, with two opposite processes at least as long as the joint and nearly as thick: thorax fulvous, with a dilated black vitta not reaching the anterior edge; an impressed line; elytra confluent punctured, appearing granulated.

Length nearly seven-twentieths of an inch.

Remarkable by the form of the antennæ.

[Afterwards described as *Pollacsis ovata* Newman, and is placed by Lacordaire in *Calyptocephalus*.—LEC.]

CANTHARIS Lin.

1. *C. TRICOSTATUS*.—Elytra widened and rounded laterally, with three elevated lines.

Inhabits Pennsylvania; Massachusetts, Harris.

Body black, with small dull yellowish hairs: head piceous at base; front yellow, oval margin blackish; before the eyes and base of the mandibles yellow: antennæ, second joint nearly equal to the third, which is obviously shorter than the following ones: maxillary palpi much longer than the labials, black: thorax transverse, yellow; disk fuscous; each side widely concave; anteriorly widely truncate; posteriorly widely emarginate: elytra laterally roundedly dilated; three prominent lines; humerus prominent: feet dark piceous; knees paler.

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Length nearly half an inch.

Var. Thoracic margin rufous; front obscure.

The width of the elytra and the form of the elevated lines are like some species of *Lampyris*; but although the palpi are very unequal, yet those of the maxillæ are not acute at tip, and the antennæ are distant.

[Belongs to *Podabrus*; afterwards described as *Telephorus Bennettii* Kirby.—Lec.]

2. *C. INVALIDA*.—Blackish; sides of the front of the thorax, and margins of the elytra, yellowish.

Inhabits Indiana.

[159]

Body brown-black, covered with short hairs: head each side beneath the antennæ yellowish: mandibles yellowish at base: antennæ, first and second joints yellowish beneath: thorax margined, black, each side yellowish; dish rather unequal: elytra rather rough irregularly, with three or four obsolete nervures; base of the exterior margin of the suture and elevated humerus, yellowish: pectus each side and before, yellow: venter, segments laterally margined with yellow.

Length less than one-fourth of an inch.

Var. *a*. Margin and suture of the elytra yellowish to the tip.

It differs from *rufipes* nob., and *scitula* nob., in being more robust and hairy; from *angulata* nob., which it most resembles, by the entirely black feet, yellowish humerus and basal elytral margins, yellow lateral ventral margins, somewhat more dilated terminal joints of the palpi, &c.

[I have not identified this species.—Lec.]

3. *C. PERCOMIS*.—Black, thorax rufous, immaculate.

Inhabits Massachusetts, Harris.

Body black, somewhat polished: antennæ with the basal joint tinged with piceous; second joint less than one-third the length of the third, which is a little shorter than the fourth: thorax transversely oval, bright rufous, the edge a little elevated and dusky: elytra with a slightly uneven appearance, not amounting to punctures or granulations.

Length nearly one-fifth of an inch.

I have seen but one specimen which was presented to me by Dr. Harris.

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[Belongs to *Silis*, and is the female of the species afterwards described by me as *S. longicornis*.—LEC.]

4. *C. BIDENTATA* nob. Journ. A. N. S., may prove to be a *Silis* Meg., but as my specimen is imperfect, I cannot determine.

MALTHINUS.

[160]

M. MARGINILIS nob. (*Molorchus*) Journ. A. N. S. 1824, read to the Society the preceding year. *Malthinus latipennis*? Germar, Spec. Novæ, p. 72, 1824.

DASYTES Payk. Fabr.

To this genus, as I now understand it, belong several species, which I published under the genus *Malachius*; such as *terminalis* nob., &c.

TILLUS Fab.

T. ? TERMINATUS.—Black; terminal joint of the antennæ as long as the head and thorax.

Inhabits United States.

Body black, densely punctured and with numerous cinereous hairs: eyes reniform, emargination very profound: antennæ, radical joint suboval; second joint globular; third, fourth, fifth and sixth, very short, transverse, approximated; seventh, eighth and ninth, rather larger, serrate; terminal one greatly elongated, longer than the head and thorax, and about three times as long as all the preceding joints conjunctly, much compressed, linear, with dense minute black hairs, tip and base rounded: labrum rounded at tip: mandibles bifid at tip: thorax cylindrical, hardly narrowed at base, margin rufous: tarsi distinctly five articulate; first joint longer than the second; penultimate one bilobate: nails dentated: abdomen sanguineous; terminal segment black.

Length rather more than one-fourth of an inch.

I obtained two specimens of this curious insect, at the [161] cantonment of Major Long's party near Council Bluff on the Missouri river. It occurs also in Indiana and Pennsylvania.

By the form of the tarsi, palpi and thorax, it approaches the present genus; but the extraordinary conformation of the antennæ seems to require a separation from the other species, at least in a distinct subgenus.

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It varies in having the rufous thoracic margin very narrow and even interrupted on the lateral margin.

[Afterwards placed as a distinct genus *Macrotelus* Klug, *Monophylla* Spin., both of which names were preoccupied; I have therefore substituted for them the name *Elusmocerus*.—LEC.]

PRIOCERA Kirby.

P. INORNATA.—Black-piceous; antennæ and palpi yellowish; maxillary palpi with the last joint rather small.

Inhabits Indiana.

Body elongated, blackish-piceous, with pale hairs, punctured: head, punctures somewhat confluent, so as to present a rather granulated appearance: antennæ honey-yellow, terminal joint hardly larger than the preceding one: labrum piceous, obtusely emarginate: mandibles piceous at base: maxillary palpi with the terminal joint small: thorax with an obtuse tubercle each side of the middle, on which is an indentation; an impressed, transverse line before the middle and a contraction behind the middle; an indentation on the basal margin; punctures not profound, transversely confluent: elytra with deeply punctured striæ: coxæ and tarsi honey-yellow.

Length two-fifths of an inch.

This species agrees with all the characters of the present genus, as laid down by Kirby, with the exception of the magnitude of the terminal joint of the maxillary palpi, which is much smaller than that of the type of the genus. It is rare.

[Belongs to *Cymatodera*.—LEC.]

[162]

To this genus, which was separated from *Tillus* by Kirby, the following species appear to belong.

TILLUS BICOLOR nob. Journ. A. N. S. vol. 5, p. 194.

TILLUS UNDULATUS nob. ibid. p. 174.

CLERUS Fab.

1. *C. QUADRISIGNATUS*.—Posterior two-thirds of the elytra black, with two broad whitish bands.

Inhabits North Carolina. Harris.

Body rufous, somewhat hairy; antennæ black: palpi rufous, dusky at base: thorax with an angulated impressed line: elytra black, basal third rufous; a broad yellowish-white band on the

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middle and a narrower one near the tip; more obviously and densely punctured at base: feet black.

Length two-fifths of an inch.

Very different from *C. ichneumonius* F., and *trifasciatus* S., by the bands of the elytra. The middle one of the latter is rufous or fulvous, and of the former black, and as long as wide, whilst in the present species the middle band is not so long as the width of the elytra, and the posterior band is at least half its size and of the same color.

2. *C. SANGUINEUS*.—Elytra sanguineous; head and thorax dusky.

Inhabits United States.

Body dark piceous: antennæ, terminal joint paler: thorax with a longitudinal dorsal, and lateral rounded indentations: scutellum dark piceous: elytra with numerous, obvious, profound, irregularly disposed punctures: venter and feet somewhat paler.

Length about one-fifth of an inch.

[163]

Found in most parts of the Union. Dr. Harris sent me an individual from Massachusetts.

[Belongs to *Thaneroclerus*.—LEC.]

3. *C. OCLATUS*.—Thorax and margin of the elytra yellowish, the former with two black dots.

Inhabits Massachusetts.

Head black: antennæ yellowish: thorax yellowish, cylindrical, with a black dot on each side of the middle: elytra black, with the suture, exterior and terminal margins yellowish; regular series of large punctures: feet yellowish.

Length over one-fifth of an inch.

Sent to me for examination by Dr. Harris.

[An *Enoplum* afterwards described as *Pelonium marginipenne* Spin.—LEC.]

4. *C. UNDATULUS*.—Elytra black, with a zigzag cinereous band near the middle, and a simple one behind.

Inhabits New Hampshire.

Body sanguineous, punctured, hairy: head blackish: labrum, antennæ and palpi rufous: thorax with an angulated, deeply impressed line on the anterior submargin; anterior margin black-1835.]

ish: elytra black, with a very small rufous portion at base; before the middle a deeply zigzag narrow cinereous band in the form of a W, the middle angle pointing anteriorly, wider on the lateral margin; anterior to the band are large punctures in regular striæ; posterior band broader, cinereous, not undulated: postpectus with a black middle.

Length one-fifth of an inch.

May be distinguished from *nigrifrons* S. and *nigripes* S. by the intermediate angle of the anterior band pointing forward, and from *dubius* F., which it closely resembles, by its blackish head, middle of postpectus, and by the form of the posterior band, which is not undulated as in that species. It was sent to me for examination by Dr. Harris.

[Belongs to *Thanasimus*, and afterwards described as *abdominalis* Kirby, which name being preoccupied was changed by Klug to *nubilus*, without recognizing the identity with Say's species.—LEC.] [164]

5. C. HUMERALIS S. Journ. Acad. Nat. Sc. vol. 3, pt. 1, 1823.

C. humeralis Germar, Sp. Novæ. 1824.

TRICHODES Fab.

1. T. NUTTALLI Kirby, Trans. Linn. Soc. vol. 12.

T. apivorus Germar, Sp. Novæ, p. 81.

It has also received a name in Dejean's Catalogue.

2. T. VERTICALIS.—Blackish; head yellow, with a black vitta; feet and base of the elytra yellowish.

Inhabits United States.

Blackish, somewhat bronzed: head yellowish, with a black vitta on the vertex: thorax somewhat cylindric, a little larger in the middle: elytra shorter than the abdomen, not meeting at the suture, a little narrowed to the tip, which is rounded, densely and irregularly punctured, punctures rather large; a large, yellowish spot extends from the base nearly to the middle: feet yellowish.

Length three-twentieths of an inch.

Var. *a. tenellus*. Thorax dusky; elytra entirely pale yellowish white, at tip only a little dusky.

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Var. β . Thorax with a lateral abbreviated vitta on the anterior margin: spot of the elytra slender, and nearer the suture.

Dr. Harris sent me a specimen from Massachusetts. I have obtained it on the common Hickory (*Carya*) in June.

[Belongs to *Hydnocera*.—LEC.]

ENOPLIUM Latr.

1. E. LATICORNE.—Black; front and each side of the thorax fulvous. [165]

Inhabits North Carolina.

Body black, punctured: head fulvous: mouth, eyes and antennæ black; the latter, with the three ultimate joints as broad as long, subquadrate, narrowed at base, the last one oval: thorax fulvous, of nearly equal width; a transverse rectilinear, indented line on the anterior submargin, and indented points each side: elytra with regular striæ of large punctures, much wider than the interstitial lines.

Length less than one-fourth of an inch.

The only specimen I have seen was sent to me by Dr. Harris for examination.

[Belongs to *Ichne* Lap.—LEC.]

2. E. DAMICORNE F. (Tillus).—In his description Fabricius says, “*Antennarum articulis duobus ultimis dilato-compressis, acutis*,” but there are, of course, three dilated ultimate joints.

PTINUS L.

P. HUMERALIS.—Reddish-brown; thorax quadrituberculate; elytra with two bands widely interrupted by the suture.

Inhabits Pennsylvania; Massachusetts, Harris.

Head pale reddish-brown, with incumbent pale ferruginous hair; vertex glabrous: thorax reddish-brown, with incumbent, pale ferruginous hair; an acute, elevated tubercle on each side, and two longitudinal obtuse ones on the disk, separated by a groove: scutel with prostrate, cinereous hair: elytra dark reddish-brown, somewhat paler at base, with rigid elevated hairs and regular striæ of rather large, impressed punctures; two remote whitish bands interrupted at the suture.

Very closely allied to *P. fur* F., but the body is less [166] 1835.]

rounded; the punctures of the elytra are smaller, and thoracic grooves less profound.

DORCATOMA Herbst.

D. SIMILIS.—Rounded, blackish; head dark piceous; elytra with two striæ and a half.

Inhabits North Carolina, Harris.

Body rounded, very little oval, convex, punctured; with short, yellowish hairs: antennæ dull rufous; not very robust; basal joint piceous; antepenultimate joint extending inwards into a conic process, and exhibiting the form of an equilateral triangle, shorter than the preceding part of the antennæ; two ultimate joints equal: elytra with three lateral striæ, of which the superior one is half the length; humerus elevated, compressed, acute.

Length less than one-tenth of an inch.

The *D. bicolor* Germar has a sanguineous thorax, and the *oculata* S. is larger, its antennæ more robust, and the terminal joint arcuated.

HYLECÆTUS Latr.

H. LUGUBRIS.—Elytra and postpectus black; abdomen and feet honey-yellow.

Inhabits Indiana.

♂ Body punctured, with short hairs; labrum tinged with piceous: antennæ, third joint obscure yellowish; vertex with a glabrous line: thorax with an indented line and a little unequal each side; scutellum glabrous and carinate in the middle: elytra with slightly elevated lines; wings dusky, nervures black: beneath black: feet and abdomen honey-yellow. [167]

Length from two-fifths to nearly half an inch.

♀ Head rufous: antennæ black, three basal joints yellowish: thorax and pectus rufous.

Var. *α*. Elytra dull yellowish on the basal half.

I observed it in considerable numbers, on the 16th of April, flying about a prostrate sugar maple, and running briskly upon it. It is infested by a species of *Gamasus*.

[Unknown to me.—LEC.]

CUPES Fabr.

1. *C. CINEREA*.—Brownish-cinereous; elytra with fuscous spots and undulations.

Inhabits Indiana, Ohio, and Louisiana.

Body pale brownish-cinereous; head on each side above the eyes, with a series of three tubercles, of which the posterior one is convex, the middle one is most prominent and acute, and the anterior one is at the superior base of the antennæ; eyes prominent, black, polished; antennæ nearly as long as the body, robust: thorax with a carinate line on the middle, widely impressed each side and with four indentations on the anterior margin; anterior angles emarginate: elytra with elevated lines and intervening series of large regular punctures, several abbreviated dark reddish-brown lines and spots which form about three undulated bands, of which one is near the base, one on the middle, and one near the tip: venter paler, somewhat testaceous.

Length over seven-twentieths of an inch.

This is the second species of this rare genus that has yet been discovered; I obtained numerous specimens in the vicinity of New Harmony, Indiana, and one near Springfield, Ohio, and the specimen from Mr. Barabino proves that it inhabits a considerable portion of the [168] Union. The species is widely different from the *capitata*, which I have not found in this region.

[The following description of the foregoing species was found among Mr. Say's papers, and, as it contains some particulars not noticed above, we have thought proper to insert it in this place.—*Pub. Com.*]

C. CINEREA.—Cinereous; elytra with abbreviated blackish lines.

Inhabits Indiana.

Body cinereous, covered with minute scales: head unequal: thorax unequal, anterior angles not excurved: elytra with largely punctured striæ, the interstitial lines convex, subequal, the alternate ones a little larger; numerous abbreviated fuscous or blackish lines, hardly to be traced into three or four very oblique bands.

Length seven-twentieths to two-fifths of an inch.

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A larger species than the *capitata* Fabr., and very distinct, though the inequalities of the head and thorax are somewhat similar. It is common about old frame houses. I have received a specimen from Mr. Barabino.

[*C. concolor* Westwood, Zool. Journ. 5, 440, and *C. trilineata* Mels., do not appear to differ from this species.—LEC.]

SILPHA.

S. CAUDATA S., Jour. Acad. Nat. Sci. 1823.

S. TUBERCULATA Germar, Sp. Novæ, 1824.

IPS Fabr.

1. I. OBTUSA.—Black; elytra each with two nearly orbicular rufous spots.

I. 4-notata? Melsh. Catal.

Body oval, convex: antennæ piceous: head and thorax [169] with small, regular, subequidistant punctures: elytra punctured, regularly rounded at tip, and rounded at the sutural angle: slightly elevated transversely on the posterior margin; each elytron with two rufous, rounded spots, of which one is at the middle of the base, and the other beyond the middle of the elytron; beneath piceous black.

Length from three-tenths to seven-twentieths of an inch.

The largest species I have seen; the name *4-notata* is preoccupied.

2. I. 4-SIGNATA.—Black; elytra each with two yellowish spots, of which the basal one is sublunate.

I. 4-signata Melsh. Catal.

Body oval, deep black: antennæ piceous: head and thorax with small, regular, subequidistant punctures: elytra punctured, very obtusely rounded at tip, almost truncate; each elytron with two yellowish spots, slightly tinged with rufous; the basal one arcuated so as to enclose the humerus; posterior one behind the middle transversely oval, not sinuated; terminal lateral margin obscurely piceous: beneath piceous-blackish.

Length slightly more than one-fifth of an inch.

Very similar to the *Nitidula fasciata* Oliv., but it may be distinguished by its uniformly small spots. The *Engis confluenta*

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nob., strictly belongs to this genus, as well as the *Nitidula fasciata* and *sanguinolenta* of Olivier.

3. I. 4-MACULATA.—Black; elytra with a basal and terminal ferruginous spot.

I. 4-maculata Melsh. Catal.

Body black, polished, oblong-oval, punctured: clypeus, at tip, tinged with piceous; antennæ piceous: elytra [170] with a large ferruginous spot at the middle of the base, and another somewhat longer one at tip of each: feet and tip of the venter rufous.

Length more than one-tenth of an inch.

[Belongs to *Engis*.—LEC.]

4. I. VITTATA.—Blackish-brown; elytra with whitish, abbreviated vittæ.

Inhabits Arkansaw.

Body dark brownish; elytra with a whitish vitta abbreviated beyond the middle and abruptly curved at base towards the scutellum: another much abbreviated, somewhat oblique one, hardly reaching the middle of the humerus, and an intermediate one hardly more than one-fourth of the length of the elytra; tip obliquely truncated.

Length less than three-twentieths of an inch.

This species was presented to me by Mr. Nuttall, who obtained it during his expedition to Arkansaw.

[Unknown to me.—LEC.]

HYDROPHILUS Fabr.

H. CASTUS.—Oblong-oval, black; palpi rufous; thorax with an oblique line each side.

Inhabits Louisiana.

Body black, polished: head with a dilated, hardly impressed oblique line each side before, in which are scattered punctures with short hairs, another narrower impressed line nearer the eye: antennæ, first joint of the club with an acute ciliated process: second joint triangular, small, the anterior angle prominent, acute; terminal joint subovate, rounded at tip: palpi rufous, last joint hardly as long as the preceding one: labrum slightly and very widely emarginate, the anterior edge piceous, and about two small punctures on the middle: thorax with a rather slender

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arcuated line each side before, and laterally [171] with a few scattered, slightly impressed punctures: scutel rather large: elytra with four striæ of impressed punctures and an approximate marginal one: feet, excepting the base of the thighs, piceous.

Length nearly three-fifths of an inch.

A specimen was sent to me by Mr. J. Barabino. The whole surface is covered with very minute crowded punctures, not at all visible without a pretty good lens.

[Does not differ from *Hydrochares obtusatus*, ante, 130.—LEC.]

HYDROPHILUS Fabr.

1. *H. MERGUS*.—Black, highly polished; sternum not reaching the middle of the venter.

Inhabits Mexico.

Body highly polished, black, oblong-oval; head with an abbreviated line of impressed, confluent punctures on the inner orbit; a much arcuated line of punctures from the anterior canthus terminates between the eyes; thorax with a much abbreviated, oblique line of punctures each side; elytra with three series of distant, obsolete punctures; exterior series remote from the others; sternum not canaliculate, not extending to the middle of the venter; feet more or less piceous.

Length nearly seven-twentieths of an inch.

In comparison with *H. natator* nob., which it closely resembles, the surface is more highly polished, the sternum much shorter and without any appearance of a groove between the anterior pairs of feet.

2. *H. EXSTRIATUS*.—Subsutural stria none, black; thoracic edge and beneath piceous.

Inhabits Louisiana.

Body short-oval or rounded, convex, glabrous, black; [172] with small, equal, equidistant, numerous punctures; polished; palpi and base of the antennæ pale yellow; three last joints of the latter fuscous; thorax piceous on the lateral and posterior margins; scutel small, with but few punctures; elytra destitute of striæ, and without any appearance of one on the sutural mar-

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gin; punctures on the basal margin obsolete; beneath piceous; tarsi yellow, brighter beneath.

Length less than three-twentieths of an inch.

This species was sent to me by Mr. Barabino. It is smaller than the *orbicularis* E., which it resembles much in the puncturing and form; but that species has the subsutural stria extending from before the middle to the tip of the elytra.

[Belongs to *Cyclonolum*.—LEC.]

3. *H. FUSCUS* nob.—Corresponding, almost unvariedly, with specimens found in Pennsylvania. I obtained it in company with *Hydrocanthus atripennis* nob.

SPHÆRIDIDIUM Fab.

S. MELLIPES.—Black; beneath honey-yellow.

Inhabits Mexico.

Body very minutely, and densely punctured, black; antennæ and palpi honey-yellow; thorax with the anterior and lateral margins obsoletely piceous; an impressed puncture on the lateral margin before the posterior angle; elytra with punctured striæ, and minute, dense punctures on the flat interstitial spaces; immaculate; beneath honey-yellow.

Length less than one-fifth of an inch.

The largest North American species which I have seen; rather larger than *S. bi-pustulatum* Fabr., but somewhat less robust.

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ONTHOPHAGUS Latr.

1. *O. INCENSUS*.—Clypeus with two elevated, transverse lines; thorax with an anterior double prominence.

Inhabits Mexico.

Body black, polished, punctured; head with two transverse, elevated lines; posterior line between the eyes, and slightly emarginate in its middle; anterior line a little more elevated in the middle, equidistant from the tip of the clypeus and posterior line; tip slightly contracted; antennæ ferruginous; thorax on the middle of the anterior submargin with a transverse, sub-bilobate, or slightly and widely emarginate elevation; an indented dot each side; elytra with punctured striæ; interstitial spaces plane, mi-
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nutely punctured; head and thorax with a hardly perceptible tinge of green.

Length over three-tenths of an inch.

The specimen is probably a female. It is smaller than the *O. taurus* Linn., the female of which it resembles in the form and disposition of the lines of the clypeus. It is much larger than *O. latebrosus* Fabr., from the female of which it differs considerably in the form of the elevated lines of the head, but agrees in having a thoracic prominence; this prominence, however, is more obvious, and widely emarginate.

2. *O. VIRIDICATUS*.—Green; clypeus bidentate; elytra smooth.

Inhabits United States.

Scarabæus smaragdulus Fab. Melsh. Catal.

Body robust, green; head bidentate at tip; antennæ blackish; thorax on the lateral edge a little angulated before the middle; elytra smooth, impunctured, or with [174] three or four hardly perceptible impressed lines; beneath dark green.

Length nearly one-fifth of an inch.

Certainly not *smaragdulus* of Fab., but it is related, in point of size and form to *Copris subæneus* Pal. de Beauv., of which, however, he remarks, "Clypeo integro, transverse bicarinato," and "ses élytres sont d'un noire terne, les stries peu marquées, et une rangée de points élevés entre chacune," which prove it to be very different from our species.

[A species of *Canthon* previously described as *Ateuchus viridis* Beauv.—LEC.]

3. *O. OVATUS* Fabr.

Our specimens are subject, like the European, to vary considerably in magnitude and some other characters; but I have not observed any trait which can justify the separation of it from the Fabrician type.

Var. *α*.—Elevated lines of the clypeus obsolete or entirely wanting.

Var. *β*.—Anterior elevated line of the head obsolete.

Var. *γ*.—Head bidentate before.

Var. *δ*.—Posterior elevated line of the head interrupted in the middle.

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Var. ϵ .—Elytra with dull ferruginous spots. Arkansaw.

It appears to be an inhabitant of nearly all parts of the Union.

COPRIS Fabr.

1. *C. COLONICA*.—Thorax somewhat retuse; head with a short elevation between the eyes.

Inhabits Mexico.

Body black; head a little rugose, with a slightly elevated, compressed, rounded horn, broader than high, situated between the eyes and not surpassing the line of [175] their anterior canthi; tip of the clypeus rather acutely rounded; thorax somewhat abbreviated dorsal line behind the middle, and a deeply indented, oval impression on the middle of the lateral margin; punctures small, very numerous; elytra with indented, punctured striæ; interstitial spaces convex.

Length nine-tenths of an inch.

Resembles *C. carolina* Fab., but is not so robust, and the thorax is much less elevated behind. The horn of the head, also, in *Carolina* is equidistant between the eyes and the tip of the clypeus. It is also like *Nicanor* ? as figured by Drury i. pl. 35, fig. 1.

2. *C. INCERTA*.—Thorax simple, with an impressed line; head horned; elytra striate.

Inhabits Mexico.

Body black, somewhat polished; head with dense, shallow punctures; a short, conic, vertical horn on the middle; tip of the clypeus acutely and rather deeply emarginate; thorax punctured except on the posterior disk; a deeply impressed line from a little before the middle to the base, and an impressed oval spot each side; anterior margin rather abrupt; elytra with deeply impressed, crenate striæ; interstitial spaces convex, impunctured.

Length nearly seven-tenths of an inch.

I should be inclined to consider this as the female of the *prociua* nob., but in that species the larger horn is very near the anterior termination of the head, and the posterior horn is much shorter and remarkably inclined; whilst in the present insect no tubercle exists to mark the locality of the larger horn, and 1835.]

the horn that it possesses is larger than the posterior horn of that insect, with which it corresponds in locality but not in direction.

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3. *C. QUADRIDENS*.—Thorax angulated, four-toothed; head horned.

Inhabits Mexico.

Body blackish-violaceous; head densely punctured, and with an elongated, recurved, trigonate horn, which is as long as the thorax, punctured and acute; thorax rugose, angulated; posterior angles compressed, elevated, subacute; on a line between them are two remote, short, vertical, conic denticulations; anterior margin near the middle with two short, vertical, conic denticulations separated by a raised line; elytra with obsolete striæ.

Length seven-tenths of an inch.

A fine species, not so brilliantly colored as the *carnifex* Fabr., or even as the *triangularis* nob., from both of which it is eminently distinguished by the thoracic denticulations.

4. *C. PROCIDUA*.—Thorax three-horned; head two-horned.

Inhabits Mexico.

Body black; head punctured, two-horned; anterior horn vertical or hardly recurved, not as long as the head; posterior horn very short, inclined; thorax punctured, with three horns, the middle one very obtuse and emarginate, lateral ones acute, in a transverse line on the anterior submargin; anterior margins declivous; anterior angles rounded; an impressed, abbreviated, dorsal line and a lateral indented spot; posterior disk impunctured; elytra with impressed, punctured striæ; interstitial spaces convex, impunctured.

Var. *a*. Highly polished.

Length more than three-fifths of an inch.

The armature of the thorax is very similar to that of *C. lunaris* Linn., but it is less robust, and is widely distinguished [177] from that species, by having two horns on the head. The variety resembles *C. Ammon* Fabr., *anaglyptica* nob., in the thoracic sculpture.

APHODIUS Illig.

1. *A. INNEXUS*.—Black; elytra with a dull yellowish margin. Inhabits Mexico.

Head widely emarginate before, punctured; disk convex impunctured: antennæ cinereous at tip; palpi honey-yellow: thorax punctured, excepting on the disk, anterior margin and middle of the lateral margin; margin, at the anterior angles, obsoletely dull honey-yellow: scutel impunctured: elytra with impressed, very regular crenate striæ, exterior and terminal margins rather pale honey-yellow; this color dilates towards the tip, and is deeply undulated on the inner edge: feet honey-yellow.

Length less than one-fourth of an inch.

About the size of *A. ater* Fabr.

2. *A. SERVAL*.—Black; elytra dull whitish, with black spots. Inhabits Indiana.

Body piceous black, punctured; head widely emarginated before, and with a dull rufous margin; thorax with a dull rufous lateral margin: elytra yellowish white, with seven or eight subquadrate black spots, and a lateral, abbreviated, black, double, confluent vitta: with slender punctured striæ; interstitial lines flat, impunctured.

Length over three-twentieths of an inch.

Very closely allied to the *inquinatus* Fabr., and resembles also *A. contaminatus* Fabr., but the clypeus is much more deeply emarginated, and is acutely angulated [178] at each end of the emargination. This latter species is hairy.

PSAMMODIUS Gyll.

P. INTERRUPTUS.—Thorax with three lateral, transverse undulations.

Inhabits Indiana.

Body dark chestnut, punctured: head deeply and somewhat acutely emarginated; with very numerous raised points: thorax with about three, lateral, transverse, but little impressed grooves, obsolete above; with a dorsal, longitudinal, impressed line, obsolete before; edge ciliated; surface somewhat rough; elytra grooved, and somewhat punctured.

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Length three-twentieths of an inch.

In the *sulcicollis* Ill., the thoracic grooves are not interrupted on the back; it is also smaller than the present species.

ODONTÆUS Meg.

O. MUSCULUS.—Small, brown, with short hairs; elytra with punctured striæ.

Inhabits Indiana.

Body small, light chestnut brown, darker before, with very numerous short hairs, punctured: head, between the eyes, with a hardly elevated, arcuated line, above which is a transverse indentation, then a hardly perceptible raised line: labrum emarginate; mandibles concave above, convex beneath, regularly arcuated, exterior edge entire: clypeus not trilobate at tip, entire: antennæ yellowish at tip: thorax convex, laterally a little dilated towards the base; an indentation on the middle of the lateral submargin; elytra with somewhat impressed and punctured [179] striæ, which are obsolete on the humerus; interstitial lines depressed, with minute punctures furnishing hairs.

Length over one-fifth of an inch.

A rare insect; I have found but one specimen, which is probably a female. It is even smaller than the *O. filicornis* nob., and in form more like the *Lazarus* Oliv. than the *cephus* Oliv.

[A species of *Ochodæus*, afterwards described as *O. americanus* Westwood, Trans. Ent. Soc. London, 2d ser. 2, 66.—LEC.]

TROX Fabr.

1. *T. ALTERNATUS*.—Elytra with cinereous, elevated lines interrupted by black spots.

Inhabits United States.

Body black, or black slightly tinged with brown: head bituberculate: thorax with obtuse, elevated, interrupted lines, irregularly punctured; posterior angles obtusely dentate: scutel, posterior margin cinereous: elytra striate with dilated punctures; alternate interstitial lines more elevated, cinereous, interrupted by black spots.

Length over half an inch.

This species is readily known by the cinereous and black alternation of the more elevated interstitial spaces. A variety

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occurs, of which the elytral punctures are much less dilated, and the thorax is less deeply sculptured. I have found the species in Pennsylvania; Nuttall obtained it in Arkansas, and Mr. Barabino sent me an individual taken near New Orleans.

A label, attached to a specimen in my cabinet, states that it cannot be the *crenatus* Oliv., with which I am now unacquainted.

[Belongs to *Omorgus*, and was previously described as *T. punctatus* Germ.—LEC.]

2. *T. GLOBOSUS*.—Blackish-bronze; elytra denticulated on the lateral edge.

Inhabits Pennsylvania.

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T. globosus Melsh. Catal.

Body blackish-bronze, punctured: head entire, unarmed; thorax with an impressed line on the anterior lateral submargin: elytra with oblong, deeply impressed, rather distant punctures; posterior declivity with four or five elevated, converging lines, the two exterior ones continued towards the humerus; exterior edge with numerous, approximate teeth: posterior tibiæ much dilated and compressed.

¹ Length about one-fifth of an inch.

[Belongs to *Acanthocerus*.—LEC.]

3. *T. SPLENDIDUS*.—Dark brassy; elytra with series of punctures, and on the posterior declivity with elevated lines.

Inhabits United States.

T. splendidus Melsh. Catal.

Body rather short, oval, polished, dark bronze; punctured: head unarmed, entire: thorax with an impressed line on the anterior lateral submargin: elytra with regular series of rather long, deeply impressed, approximate punctures; on the posterior declivity four or five elevated, converging lines, the exterior one extending towards the humerus; posterior tibiæ much dilated and impressed.

Length nearly one-fifth of an inch.

Readily distinguishable from the preceding by the more approximate punctures of the elytra, and the simplicity of the lateral edge. They both exhibit a remarkable difference, in their smooth surface, from the greater number of the species of this genus.

[Also an *Acanthocerus*, previously described as *Melolontha aphodioides* Illiger, and *Scarabæus latipes* Germ., and subsequently as *A. lævistriatus* Lap.—LEC.]

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MELOLONTHA Fabr.

M. INTEGRA.—Reddish-brown, hairy ; clypeus entire.

Inhabits Mexico.

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Body reddish-brown, hairy on every part: head with rather large dense punctures; tip of the clypeus obtusely rounded; thorax with the hair equal, reflected: scutel with rather short hair: elytra destitute of elevated lines; hair longer near the base: postpectus with long hair: feet with sparse hair.

Length less than three-fourths of an inch.

Distinguishable from all the other known North American species by its rounded clypeus combined with its universal hairy vesture and magnitude.

ANOMALA Meg.

1. *A. GEMELLA*.—Yellowish-white, varied with blackish, elytra with geminate striæ.

Inhabits Mexico.

Body pale, varied with blackish: head punctured, cupreous: thorax with minute, distant punctures; edge blackish-cupreous; disk blackish; this color reaches the middle of the anterior margin, is sinuate on the sides and profoundly so behind; a blackish dot on the middle of the lateral submargin: scutel piceous: elytra with rather distant, large and blackish punctures; three double series of impressed punctures similar to the others, but approximate, and a single subsutural series; edge all around blackish, a humeral spot and middle of the exterior margin blackish.

Length half an inch.

In some respects resembles *A. unifasciatus* nob., but it is larger, with a shorter head, and is very different by other characters.

2. *A. CINCTA*.—Bluish-green, elytra pale brownish.

Inhabits Mexico.

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Head cupreous, punctured: thorax slightly punctured, bluish-green: scutel bluish-green, punctured: elytra pale brownish, or a little testaceous, with punctured striæ and a broad line of ir-

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regular punctures near the suture: suture and edge all around and spot on the humerus blackish-green: antennæ and palpi ferruginous.

Length over half an inch.

This insect and the preceding may be only varieties; nevertheless, having three specimens that are similar to each other, I may state that it differs from *A. gemella* nob., in the more obviously punctured thorax, in not having the striæ of the elytra so obviously in pairs, and in the color.

HEGETER Latr.

H. PUNCTATUS.—Thorax transverse; elytra punctured, and with obsolete series of punctures.

Inhabits Mexico.

Body black, densely punctured: antennæ and palpi piceous; terminal joint of the maxillary palpi rather large: thorax transverse, convex: elytra irregularly punctured, and with regular series of punctures: feet piceous.

Length less than one-fourth of an inch.

EURYCHORA Thunb.

E. INÆQUALIS.—Body inequal, with elevated points and lines, and indentations and punctures.

Inhabits Mexico.

Body black, oblong-oval; head minutely rugose, with an obtuse indentation each side: thorax inequal, with [183] elevated obtuse lines and indentations, and numerous small, elevated dots; posterior angles acute: elytra with many small elevated dots, and deeply impressed, distant punctures; several elevated, obtuse, abbreviated lines, of which the largest one is near the middle and extends to the posterior declivity; on this declivity are three large, elevated tubercles; an abbreviated line extends from the humerus, and a very short basal one is nearest the suture: beneath, with numerous, small, elevated dots.

Length three-fifths of an inch.

This occurred in abundance in an elevated situation, under old logs.

[Evidently a species of *Nosoderma*.—LEC.]
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BLAPS Fabr.

1. *B. RUIDA*.—Elongated; elytra rugose.

Inhabits Mexico.

Body black, punctured: thorax somewhat longer than broad, punctures confluent each side and behind; a transverse, sub-basal, indented band, obsolete in the middle; lateral margin rounded, the marginal, hardly elevated line being so low on the side as not to be visible from above: elytra convex, covered in every part with irregular rugosities.

Length less than one inch.

[These species all belong to *Eleodes*.—LEC.]

2. *B. IMPOLITA*.—Opaque; thoracic basal angles slightly ex-curved; elytra simple.

Inhabits Mexico.

Body black, nearly opaque, very minutely punctured: head, transverse line between the antennæ, obsolete: thorax rather wider than long, greatest width a little before the middle; lateral edge a slightly elevated line, abruptly a little ex-curved at the posterior angle, exhibiting [184] in that part a very small, acute, lateral projection: elytra smooth to the eye, but on close inspection minutely and irregularly rugose and punctured; lateral margin rounded.

Length over three-fifths of an inch.

Much like *B. æqualis*, but distinguishable by its almost total want of polish, the minute prominence of its posterior angle, and the microscopic roughness of its elytra.

3. *B. MAURA*.—Elytra with impunctured, obtuse striæ.

Inhabits Mexico.

Body black: head punctured, an impressed line between the antennæ: thorax with hardly discernible punctures; wider than long; posterior angles not rounded; lateral edge a vertically elevated line, not in the slightest degree curved outwards near the posterior angle: elytra somewhat depressed, obtusely striated or grooved, the grooves impunctured, but viewed in a particular direction they appear obsoletely rugose; interstitial lines convex; lateral margin rounded and evidently irregularly punctured; epipleura impunctured; feet punctured.

Length more than three-fifths of an inch.

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4. B. OBLITERATA.—Elytra with obsolete grooves; lateral margin rounded.

Inhabits Mexico.

Body black, immaculate: head slightly punctured; an impressed line between the antennæ: thorax wider than long; lateral edge a slightly elevated line, a little excurved at the posterior angle, which is consequently somewhat acute: elytra with obsolete grooves, minutely punctured; lateral margin rounded and smooth: thighs not obviously punctured. [185]

Length less than three-fifths of an inch.

Resembles the preceding, but differs in the excurvature of the lateral thoracic edge near the posterior angle, and in the grooves of the elytra being obsolete.

5. B. CELSA.—Body somewhat elongated; elytra with traces of grooves and punctures.

Inhabits Mexico.

Body brownish-black, minutely punctured, somewhat elongated: head with the impressed line between the antennæ obsolete: antennæ at tip, and palpi piceous: thorax rather wider than long; lateral edge a slightly elevated line, not excurved at the posterior angles; an obsolete, abbreviated, oblique, impressed line near the posterior angles; somewhat attenuated behind; lateral margin rounded.

Length more than three-fifths of an inch.

More slender than the *maura* and *obliterata*, which have no appearance of an indentation near the posterior angles of the thorax.

6. B. ÆQUALIS.—Elytra smooth, simple; thoracic basal angles not excurved.

Inhabits Mexico.

Body black, minutely punctured: head with the impressed line between the antennæ, obsolete: thorax broader than long, broadest in the middle; lateral edge a slightly elevated line, not at all excurved near the posterior angle; elytra destitute of any appearance of the rudiment of a groove or of striæ; rounded on the lateral margin.

Length over three-fifths of an inch.

Shorter and more robust than *B. celsa* nob.; allied [186] more closely to *B. obliterated* nob.; but the elytra of that species are much more rough, and its posterior thoracic angles are slightly excurved.

7. *B. PARVA*.—Lateral thoracic edge reclivate; elytra with punctured striæ.

Inhabits Mexico.

Body black, punctured: head with two obsolete indentations between the antennæ: thorax emarginate before for the reception of the head; anterior angles acute; lateral edge with a hardly prominent line, curved convexly before and concavely behind, forming an acute posterior angle; greatest breadth rather before the middle: elytra with large punctures in regular series; interstitial lines irregularly punctured.

Length nearly three-tenths of an inch.

The smallest species I have yet met with in North America.

Of this genus I have described sixteen North American species, each of which has only the three ultimate joints of the antennæ moniliform; whereas in all the exotic species of my collection, nine in number, the four ultimate joints are moniliform.

OPATRUM Fabr.

1. *O. STRIATUM*.—Clypeus obtusely emarginate; elytra with punctured striæ.

Inhabits Mexico.

Body punctured, black, with a slight brassy tinge: head densely punctured; emargination of the tip much dilated; thorax densely punctured, posterior edge not deeply sinuated: elytra with impressed, punctured striæ: tarsi piceous. [187]

Length three-tenths of an inch.

Resembles *O. pullum* nob., but is smaller, and the base of the thorax is more rectilinear.

2. *O. NOTUM* nob. Specimens found near New Orleans vary from those of more northern regions, in being a little polished, and in having the elytral punctures larger.

TENEBRIO Lin.

1. *T. SUPPRESSUS*.—Thorax large; clypeus entire; elytra with punctured striæ.

Inhabits Mexico.

Body black: head densely but minutely punctured; clypeus a little reflected and entire: labrum nearly concealed: thorax densely and minutely punctured; rather large; a large, slightly indented spot on the posterior submargin; posterior angles acute; posterior margin with an impressed line: scutel triangular: elytra with impressed, punctured, and crenate striæ; interstitial spaces convex, impunctured; lateral edge acute: anterior tibiæ with a strong tooth.

Length half an inch.

In comparison with *T. reflexus* nob., the thorax is larger, more arcuated on the lateral edge, and more narrowed behind; the anterior tip of the clypeus is not so prominently reflected, and the contraction towards the junction of the thorax and abdomen is more obtuse.

2. *T. RUFINASUS*.—Suboval, black; head before, antennæ and feet ferruginous.

Inhabits Louisiana.

Body oval, a little oblong; densely punctured: head on the anterior part obscure rufous; antennæ obscure, [188] ferruginous; joints transverse, subtriangular or conic: palpi and mentum ferruginous: thorax regularly punctured; basal edge undulated; basal angles rectangular: scutel densely punctured: elytra with regular series of punctures; interstitial spaces slightly convex, particularly the lateral ones, and with three or four irregular series of small punctures: beneath ferruginous, punctured.

Length over one-fifth of an inch.

Sent to me by Mr. Barabino from New Orleans.

[Belongs to *Heterophaga*.—LEC.]

ULOMA Meg.

U. *FERRUGINEA* Fab. Several specimens occurred at Vera Cruz, but I suspect it to be a naturalized foreigner, as it is with us.

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CEDEMERA Oliv.

CE. APICALIS.—Pale reddish-brown; elytra black at tip and with four elevated lines.

Inhabits United States.

Body rufo-testaceous, densely punctured: eyes obvious emarginate: mandibles black at tip: thorax dilated each side before the middle, narrowed behind: elytra with four narrow, slightly elevated lines, on each side of which is a series of more obvious punctures; third line obsolete before the middle; tip black; postpectus, abdomen and feet black, a little sericeous: wings blackish.

Length about half an inch.

I have found it in Pennsylvania and other parts of the Union, and Mr. Barabino sent me an individual from Louisiana.

[This is the common *Naccrdes melanura*, imported from Europe.—LEC.] [189]

LAGRIA Fabr.

To this genus, as it is at present constituted, it seems probable that the following species belong, rather than to *Anthicus*, under which I published an account of them, stating, at the same time, that they differ from the other species of the genus that had fallen under my observation, viz:—

Lagria lugubris, *L. collaris*, *L. terminalis*, *L. labiata*, and *L. impressa* nob., but the orbicular thorax, the nails being armed with a tooth or abrupt angle beneath, &c., seem to justify, if not the formation of a new genus, certainly a division of the present, under the name of *Corphyra*.

[As will be seen ante, 311, these species all belong to *Pedilus*. LEC.]

RHIPIPHORUS Fabr.

R. LIMBATUS Fabr.—Sanguineous; thoracic disk and margin of the elytra black.

Inhabits the United States.

Body rather slender, yellowish-sanguineous: antennæ black, basal joint yellowish: mandibles black at tip: thorax deeply si-

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nuated behind, and with a more or less dilated, black spot on the middle: elytra with a whitish disk, more or less broadly margined with black: thighs at tip, tibiæ except at base, and tarsi, except the base of the first joint, black.

Length to tip of elytra a quarter of an inch.

Var. *α*. Vertex black.

Var. *β*. Elytra black, immaculate.

Var. *γ*. Beneath varied with black.

Fabricius was unacquainted with the native country of his *limbatus*, but as his description agrees very well with [190] our insect, and was made out from a specimen belonging to the same collection in which he described his *dimidiatus*, I have no doubt that it was intended to indicate this species. Dr. Melsheimer was of the same opinion, and has recorded the name in his catalogue. I introduce the description for the purpose of preserving the Fabrician name for a species not commonly known.

MORDELLA Latr.

1. *M. HILARIS*.—Blackish, silvery-sericeous; elytra with a dilated, irregular, dull yellowish band margined with whitish.

Inhabits Indiana.

Body black, somewhat purplish-iridescent, sericeous: head dull yellowish-sericeous: thorax varied with gray hairs: scutellum silvery: elytra with a much dilated, dull golden sericeous, oblique band, occupying about one-third, spread widely towards the scutellum, and margined before and behind with a whitish line, the anterior line much angulated and the posterior one reclivate; tip rounded: beneath with purple and green reflections, and silvery-sericeous.

Length about two-fifths of an inch.

This has some resemblance to *M. bidentata* nob., but it is widely distinct by the elytral band and the much more dilated terminal joint of the maxillary palpi. It is common about the flowers of the *Hydrangia cordata* Ph. Its movements are rapid.

2. *M. OCULATA*.—Black; elytra bifasciate, anterior bands with two dots.

Inhabits Pennsylvania and Indiana.

M. fasciata Melsh. Catal.

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Body black, whitish sericeous : antennæ dull rufous, dusky towards the tip : thorax with two slightly indented dots a little behind the middle : elytra with a yellow-cinereous band a little behind the middle, interrupted at the suture and contracted on each side, and a much larger basal band extending posteriorly on each elytra in a point, nearly to the middle, and having a subbasal obvious, definite, black dot each side of the suture : tibiæ and tarsi dull rufous.

Length over three-tenths of an inch.

The two black dots on the basal band of the elytra are very obvious, and serve to distinguish it from *M. fasciata* Fabr., which it certainly resembles, and to which it has been referred.

3. *M. SERVAL*.—Blackish, spotted with yellowish.

Inhabits Indiana.

Body brownish-black : antennæ and palpi pale, dull rufous : thorax with numerous spots of short, yellowish hairs : elytra with numerous subequal spots of short, yellowish hairs, a dentated band behind the middle, and narrow terminal margin : beneath sericeous : venter each side with obsolete oblique, brown lines : tarsi, color of the antennæ.

Length three-twentieths of an inch.

A very pretty species.

APATE Fabr.

A. BICAUDATA nob.—A variety of this species occurred in Mexico. It is large, the feet are nearly black, and the punctures of the elytra are somewhat larger than in those of this country.

PARANDRA Latr.

[192]

P. POLITA.—Ferruginous, head and thorax impunctured.

Inhabits Indiana.

Body ferruginous, polished : head blackish-ferruginous, almost impunctured, excepting behind the eyes, where the punctures are numerous ; a longitudinal, slightly indented line before : antennæ ferruginous at tip : mandibles with a large, prominent, rounded tooth near the base ; then a profound, rounded sinus, then a subterminal tooth : palpi ferruginous : thorax blackish-ferruginous, impunctured, gradually a little narrowed behind ; an ob-

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solete indentation in the middle of the lateral margin; lateral margin decurved, the edging line hardly prominent, so that, when viewed from above, it is not visible; posterior angles almost rounded: posterior edging line hardly visible: scutell small: elytra minutely punctured; pectus and postpectus dark ferruginous.

Length about seven-tenths of an inch.

This species, by its size and color, may be readily mistaken for the *P. brunneus* of authors, but it differs in many characters. It has a more slender thorax, which is not wider than the head. The teeth of the mandibles are but two, the basal one being very large and remote from the other, so that when the mandibles are closed, an oval interval appears, as in the *ferruginea* Sturm., which species, however, has the posterior angles of the thorax very obtusely rounded. The *P. brunnea* has three subequal, subequidistant teeth in the mandibles; the head and thorax obviously punctured, the latter broader than the head, &c.

The species is rare.

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PRIONUS.

P. DASYSTOMUS nob.—Occurred near Natchez, on the Mississippi.

MONEILEMA Say.

M. INEQUALIS.—Cinereous; rough, with elevated points and tubercles.

Inhabits Mexico.

Body pale, brownish-cinereous: eyes small, distant from the antennæ: antennæ nearer to each other than to the eyes; first joint robust, longer than the second and third together; half the length of the body: thorax cylindric-oval, covered with small, unequal, irregular elevations: elytra with many elevated tubercles, of which some form a regular arcuated series from near the humerus to the tip, and parallel with the suture beyond the middle; tip entire, as long as the abdomen.

Length seven-twentieths of an inch.

Inasmuch as this species is apterous and has a similarity of habit, I place it in the present genus, although the approximation of the antennæ is an obvious distinction.

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CLYTUS Fabr.

1. *C. CHARUS*.—Thorax yellow, with three black dots; elytra black; base, band behind the middle, and tip yellow.

Inhabits Indiana.

Body covered with short, dense, prostrate hair: head black; a band on the vertex curving under the head, an abbreviated line above the antennæ, and front yellow: thorax yellow, with three dorsal, transverse, abbreviated, [194] parallel, blackish bands: elytra black; basal third a narrow, undulated band behind the middle, and tip in which is a small black spot, yellow; a black dot on the humerus: beneath yellow sutures and feet black.

Length nine-tenths of an inch.

Somewhat like *C. decorus* Oliv., and *speciosus* nob., but the bands of the elytra and other characters are essentially different. I first observed it near the end of August. It is a remarkably fine insect.

[Belongs to *Arhopalus* as enlarged by me.]

2. *C. CAPREA* nob.—Occurred at New Orleans.

STENOPTERUS Illig. (NECYDALIS Fabr.)

S. SANGUINICOLLIS.—Blackish, thorax sanguineous.

Inhabits Indiana.

Body black, with cinereous hairs, punctured: thorax sanguineous, unequal, with three more obvious elevations: elytra with a longitudinal, slightly elevated line; disk obscurely tinged with brownish: feet yellow; club of the thighs and tip of the tibiæ black.

Length seven-twentieths of an inch.

It is more slender than *S. præustus* Fabr.; but the thoracic and elytral elevations are somewhat similar.

MOLORCHUS Fabr.

M. MELITUS.—Black; abdomen, feet and basal joint of the antennæ honey-yellow.

Inhabits Indiana.

Body black: head indented between the antennæ: antennæ about as long as the body, basal joint rufous; thorax subcylindric, contracted before the middle, and with an indented longitudinal

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line: elytra with a dull [195] honey-yellow vitta, external edge and obsolete spot on the basal middle: postpectus sericeous: feet honey-yellow; tip of the posterior thighs, their tibiæ and tarsi dusky: abdomen honey-yellow.

Length ♂ nearly three-fifths of an inch; ♀ over four-fifths.

In the form of the thorax it is more like *M. bimaculatus* nob., than *marginalis*, but it is greatly superior in magnitude to either, and very distinct as a species.

ACANTHOCINUS Meg.

A. QUADRIGIBBUS.—Antennæ annulate; thorax four tubercled; elytra with a cinereous spot on each.

Inhabits Louisiana.

Body dark brownish, when closely examined, varied with ferruginous and cinereous, short, prostrate hair: antennæ hardly longer than the body, blackish; the joints, excepting the basal ones, reddish cinereous at their bases; basal joint clavate: head before remotely punctured; behind the eyes, small, numerous punctures: labrum dull honey-yellow: thorax with distant punctures; four tubercles nearly in a transverse line, and a longitudinal, elevated line: elytra quadrigibbous at base; inner gibbosity extended into a longitudinal elevated line, gradually declining and terminating before the tip; numerous, distant, profound, punctures; a dilated, undulated, cinereous spot, before the middle; a sutural series of alternate, quadrate, small brown and cinereous spots, nearly opposite; tip emarginate: thighs clavate.

Length less than three-fifths of an inch.

For an opportunity to described this species, I am indebted to Mr. Joseph Barabino, who obtained it near New Orleans.

[Belongs to *Acanthoderes*.—LEC.]

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TETRAOPES Schönh.

T. TORNATOR Fabr.—This species is subject to vary. I obtained an individual near the Rocky Mountains, so covered with short whitish hair as almost to conceal its color; it was destitute of the large black spot of the elytra. Two specimens occurred in Mexico, both of which were destitute of the same spot. It is the *T. tetropthalmus* Forster.

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Of this genus are two species; the *tornator* F., and the *canteriator* Drapiez, both of North America. The latter has received three or four names from as many different authors, but as they are unaccompanied with descriptions, the above will of course, take precedence.

HISPA Linn.

H. ATRICORNIS.—Above yellowish; antennæ, thoracic line and tip of the elytra, black.

Inhabits Mexico.

Body above yellowish-fulvous: head impunctured: antennæ black: thorax with rather large punctures; a black dorsal line: scutel black: elytra serrate, with double series of punctures, and interstitial, slender, elevated lines; tip black-brown, not more than one-fifth of the whole surface of the elytra: pectus and postpectus with a lateral black vitta dilating behind: feet black: thighs fulvous at base: venter black, yellowish each side.

Length more than one-fifth of an inch.

This cannot be *H. quadrata* Fabr., which has the elytra margined with purple. [197]

CASSIDA Linn.

C. UNIPUNCTATA nob. Journ. Acad. Nat. Sc. vol. iii.

A variety of this species occurs in Mexico, of a smaller size, with sometimes a black, arcuated, transverse line behind the abbreviated thoracic line. The inferior surface, in some specimens, is black, the feet varied with whitish, and whitish triangular lateral spots on the incisures of the venter; in others the inferior surface is pale greenish-yellow, more or less varied with black, the spiracles black. It is an abundant species.

CLYTHRA Leach. Fabr.

C. MUCIDA.—Black, metallic; head, thorax, and beneath with white hair.

Inhabits Mexico.

Body blackish. punctured: head with a coppery tinge, and covered with prostrate white hair: labrum honey-yellow: palpi blackish: antennæ piceous: thorax tinged with cupreous, with dense, small punctures, and covered with white prostrate hair:

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scutel with prostrate white hair : elytra naked, with blue and coppery reflections, confluent punctured, lateral edge deeply arcuated : beneath covered with white prostrate hair : feet piceous.

Length over one-fourth of an inch.

Much larger than *C. dominicana* Fabr., much more hairy above, and the lateral edge of the elytra more profoundly excavated.

CHRYSOMELA Linn.

3. *C. BARDA*.—Green ; elytra with rounded whitish spots.

Inhabits Mexico.

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Body dark green, somewhat metallic, punctured : head with an impressed angular line between the antennæ : antennæ honey-yellow, at tip fuscous : labrum and palpi honey-yellow : thorax irregularly, and in parts confluent punctured, particularly on the sides ; on the disk the punctures are sparse : elytra with a cupreous tinge, and more or less arcuated and abbreviated series of punctures, including the whitish spots ; spots unequal, more or less rounded, between twenty and thirty in number, yellowish-white, the largest one on the humeral margin and bilobate, two geminate ones at base, none on the sutural margin : wings carneous : beneath tinged with cupreous, on the venter : feet honey-yellow.

Length three-tenths of an inch.

A common species, easily distinguishable from others.

GALLERUCA Fabr.

1. *G. LEPIDA*.—Sanguineous ; elytra blackish, bifasciate with white.

Inhabits Mexico.

Head sanguineous : antennæ white : thorax narrow, sanguineous, with a transverse, slightly indented line, impunctured : elytra blue-black, obsoletely and irregularly punctured ; a transverse, bilobate, abbreviated band before the middle, and a transverse, oval spot near the tip, yellowish-white : feet yellowish-white.

Length less than one-fourth of an inch.

Habit of *G. 4-maculata* Fabr., but not so much elongated.

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At first sight, without inspection of its generic characters, it might be mistaken for a *Lema*.

2. *G. CAVA*.—Head with one, thorax with two impressed dots. [199]

Inhabits Mexico.

Head punctured, sanguineous, beneath the antennæ whitish; vertex with an impressed dot: antennæ fuscous, or blackish, basal joints whitish beneath: thorax sanguineous, punctured, with two indented dots: elytra densely punctured, with a common suture and vitta blue, the latter originating on the humeral tubercle and abbreviated before the tip: pectus ferruginous: postpectus and venter black; feet white.

Length one-fifth of an inch.

Distinguishable from other species by the indentations of the head and thorax, combined with the elytral vittæ and irregular puncturing.

The *G. vittata* Fabr. is common in Mexico.

ALTICA Geoff.

1. *A. MELLICOLLIS*.—Head black; thorax yellowish; elytra blue.

Inhabits Louisiana.

Head blue-black, with rather large punctures each side, between the antennæ convex, dark piceous: antennæ black brown, three basal joints honey-yellow beneath: palpi black: thorax pale honey-yellow, punctures not obvious: scutellum impunctured: elytra dark violaceous-blue, with numerous, small, distant, not profound punctures: pectus yellowish: postpectus blackish: venter blackish, last segment dull yellow: thighs honey-yellow: tibiæ black, yellowish at base: tarsi black.

Length nearly one-fifth of an inch.

Related to *collaris* Illig., and *collata* Fabr., and particularly the latter, from which it may be distinguished by its blue elytra and immaculate face. A specimen was sent to me by Mr. Barabino, from New Orleans. [200]

2. *A. CRENICOLLIS*.—Yellowish; thorax five-spotted; elytra with black vittæ.

Inhabits Mexico.

Body pale yellowish : antennæ blackish ; three basal joints honey-yellow, with a black line above : vertex with a black spot thorax with two small dots, and an abbreviated line arranged triangularly, black, and a lateral, somewhat larger, oblique, oval, indented black dot : scutel black : elytra impunctured, destitute of striæ ; a common sutural black vitta, another in the middle, somewhat narrower than the intervening portion, and a submarginal one : pectus yellowish : postpectus and venter black, the latter with yellowish margins to the segments : feet honey-yellow : tibiæ and anterior and intermediate thighs with a black line.

Length one-fifth of an inch.

Very closely allied to *A. alternata* Illig., the form and proportion of the elytral vitta being the same, but that species is somewhat larger, and is altogether destitute of the lateral thoracic impressed dots.

3. *A. CERACOLLIS*.—White ; head black, elytra violaceous.

Inhabits Mexico.

Body white, impunctured ; head black, with an elevated line below the antennæ : antennæ black, second and third joints white, with a black line above : thorax immaculate : elytra violaceous, burnished ; tarsi and tips of the tibiæ black.

Length less than one-fifth of an inch.

Resembles the *A. collaris* Illig., (*xanthomelas* Dalman,) but is much more closely allied to *A. collata* Fabr. It is somewhat doubtful if it be a distinct species ; but as I possess specimens of the latter from Pennsylvania, Missouri [201] and Florida, all correspond in having green elytra, white front, and other distinguishing traits, I have ventured to assign it a distinct name.

EROTYLUS Fab.

E. 4-PUNCTATUS.—Testaceous, beneath black : thorax with four black dots : elytra trifasciate with black.

Inhabits Missouri.

Erotylus 4-punctatus ? Oliv. Enc. Meth.

Head black : thorax testaceous, with an arcuated series of four subequal black dots : scutel black : elytra testaceous, with regular series of impressed punctures, an interrupted band at base composed of a large common spot, and a smaller longitudinally ob-

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long one originating on the humerus, an irregular band on the middle, dilated on the suture, and a terminal, longitudinally oblong spot, black; edge black: beneath black: pectus each side, and a series of five spots on each side of the venter, testaceous.

Length three-tenths of an inch.

This insect I believe to be the *E. 4-punctata* Oliv. and as it is but little known, I describe it more particularly to fix the species.

[Belongs to *Ischyrys*.—LEC.]

LANGURIA.

L. SIMPLICICOLLIS.—Black; head and thorax sanguineous immaculate.

Inhabits Mexico.

Body blue-black: head sanguineous: antennæ blackish-fuscous: thorax sanguineous, immaculate: elytra with [202] very distinct series of well impressed punctures: pectus and head beneath sanguineous.

Length nearly two-fifths of an inch.

Much larger than *L. Mozardi* Latr., and with a proportionally shorter thorax, in these respects corresponding with *L. puncticollis* nob., which it equals in magnitude, but has an immaculate thorax, more profoundly punctured elytral striae, and black post pectus and venter.

COCCINELLA Linn.

1. *C. MUNDA*.—Elytra immaculate; thorax black, with a white margin and spots.

Inhabits North America.

Body black: head with dilated, white, inner orbits: labrum honey-yellow: thorax with a white anterior and lateral margin, and a white abbreviated line proceeding from the middle of the anterior margin: a lateral white dot sometimes confluent with the anterior margin: elytra immaculate, yellowish: tibiae and tarsi piceous.

Var. α . Tibiæ and tarsi black.

Var. β . Elytra sanguineous; head white; anterior pairs of feet honey-yellow.

Length nearly one-fifth of an inch.

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I have specimens in my collection from remote parts of North America. Dr. Harris sent it to me from Massachusetts, and Dr. Melsheimer from near Maryland. I have found it in the North West Territory, Pennsylvania, Indiana, Missouri, Florida, and varieties α and β , in Mexico. The name is taken from Melsheimer's Catalogue.

2. *C. DENTIPES* Fabr.—Is common in Mexico, and I formerly obtained an individual in the North West Territory.

3. *C. CACTI* Fabr.—This species occurs abundantly in Mexico; it certainly resembles very closely the *stigma* [203] nob., so common in this country, and the *renipustulata* Müll., of Europe; but it is more than twice the size of either of those insects, and may also be distinguished from the former, by the superior magnitude of the rufous spot of which the form is transversely oval, whilst that of the *stigma* is orbicular.

SCYMNUS Herbst. (COCCINELLA F.)

S. TERMINATUS.—Black; elytra, at tip yellowish.

Inhabits Louisiana.

Body black, polished, punctured: head honey-yellow: antennæ, club not much dilated, with numerous short hairs: thorax with numerous short hairs: lateral margin honey-yellow: scutell acute behind: elytra at tip yellowish: beneath piceous-black: pectus, feet and venter behind, honey-yellow.

Length about two-twenty-fifths of an inch.

For this species I am indebted to Mr. Barabino.

[From Boston Journal of Natural History, Vol. i. No. 3, pp. 210—305.]

Descriptions of new North American HYMENOPTERA, and Observations on some already described.

Communicated Feb. 1835.

Family TENTHREDINETÆ.

ACORDULECERA Say.

Artificial character.—Antennæ filiform, 6-jointed, short; radial cellule one; cubital cellules three, the second smallest.

Natural character.—Antennæ six-jointed; first and second joints subequal, the second larger; third joint longest but equal to the following ones in diameter; remaining joints gradually shorter; terminal joint not longer than the second: mandibles arcuated, acute; a prominent tooth on their middle: labrum prominent and distinct: radial cellule rather large: cubital cellules three; first elongated, as long [210] again as the second: carpus large: tibiæ with one pair of spines at tip.

Obs. The family of which this new genus is a member, was divided by Leach into nine Stirpes, all of which have nine or more joints in the antennæ excepting the first, second, and fifth. Of these, two genera only, have 6-jointed antennæ, viz., *Zarea* and *Perga* Leach; but both have clavate antennæ and in many respects are at variance with the characters of the present insect. In a later work, the "Entomologische Monographien," by Dr. Klug, which that author has done me the favor to send me, are the two new genera *Pachylosticta* and *Syzygonia*, both of which have clavate antennæ, and therefore, like the preceding, cannot possibly include our insect.

A. DORSALIS.—Black; hypostoma, a base of the tergum and feet whitish.

Inhabits Indiana.

♂ ♀ Black, with minute whitish hairs; nasus, labrum and mouth white: mandibles rufous at tip: thorax with the anterior segment, curving to the base of the wing, white; line of the insertion of the wings white: wings a little dusky; nervures fus-

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cous: tergum pale yellowish on the basal disk, blackish brown at tip: venter more or less yellowish-white, dusky or blackish at tip: feet and coxæ whitish-green.

Var. α . Feet and part of the costal rib green; scutel and posterior portion of the stethidium whitish. [211]

Var. β . Thorax and abdomen entirely black.

Length three-twentieths of an inch.

This insect is common.

HYLOTOMA Latr.

1. H. SCUTELLATA.—Fulvous; head and thorax, excepting the humerus and scutel, blackish.

Inhabits United States.

♀ Body reddish-yellow: head blue-black: thorax blue-black; each side before the wings, including the superior portion of the pleura, reddish-yellow: scutel elevated, bright reddish-yellow: metathorax with two oblique, oblong, white spots: wings dusky violaceous: pectus, neck, incisures of the stethidium (and feet?) blue-black: anal segments at tip black.

Length nine-twentieths of an inch.

I do not remember in what part of the Union I found this species. The feet in the specimen are mutilated.

2. H. CALCANEA.—Blackish; thorax yellow; tarsi whitish at base.

Inhabits United States.

Violaceous black: thorax with the anterior superior portion of the pleura yellow; suture of the anterior segment, or collar, blackish: wings dusky violaceous: tarsi at base white.

Length less than seven-twentieths of an inch.

I have also lost the particular locality of this species. They do not correspond with either of the species described by Dr. Leach. [212]

ATOMACERA Say.

Generic character.—Body rather short: antennæ with but three obvious joints; in the male ciliated: cellules, one radial, unappendiculated; three or four cubitals, the dividing nervure of the first and second being obsolete: tibiæ destitute of a spine in their middle.

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Obs. The name of *Cryptus*, applied by Jurine to one of his genera, has been previously appropriated by Fabricius to a genus of *Ichneumonides*, and is altogether synonymous with *Hylotoma* of Latreille, which is the anterior designation. It includes species of at least three genera, all of which are distinguished by tri-articulate antennæ. It may be thus divided, with modified characters.

HYLOTOMA Latr.—Radial cellule appendiculated: four posterior tibiæ with a spine on their middle.

H. rosæ F.

ATOMACERA nob.—Radial cellule simple; tibiæ destitute of a spine on their middle.

CRYPTUS Jurine (by error).—Antennæ of the male biparted: tibiæ destitute of a spine on their middle.

C. furcata F. *C. Klugii*, Leach, &c.

1. **A. DEBILIS**.—Black; tibiæ whitish.

Inhabits Indiana.

♂ Body black, polished: antennæ, ciliæ longer than the transverse diameter of the antennæ: mouth dull piceous: wings fuliginous, a little paler at tip; first and [213] second cubital cellules confluent: tibiæ, anterior pair dull pale yellowish.

Length three-twentieths of an inch.

2. **A. CELLULARIS**.—Black; abdomen rufous.

Inhabits Indiana.

♀ Body black, polished: antennæ distinctly and rather densely ciliated with hairs, which are a little shorter than the transverse diameter of the antennæ: nasus, labrum and palpi whitish: wings dusky violaceous; cubital cellules three; the second very small, hardly one third the length of the first, and but little wider at its tip than at its base: abdomen entirely yellow-rufous: feet, coxæ, trochanters and small base of the tibiæ, whitish; anterior pair of tibiæ dull whitish.

Length less than one-fourth of an inch.

Much smaller than *Hylotoma abdominalis* Leach, which it probably resembles.

THULEA Say.

Artificial Character.—Antennæ six-jointed ; last joint clavate. Radial cellule one. Cubital cellules three.

Natural Character.—The antennæ are rather short, decidedly clavate ; first joint very short, not longer than broad ; second joint at least as long again as the first and somewhat more robust, cylindrical ; third rather longer than the 1st and 2d together, much more slender, cylindric, hairy ; fourth minute, shortest ; fifth about the length of the third, subcylindric, [214] naked ; sixth slightly longest, nearly equal to the 3d and 5th, a little dilated towards the tip ; scutel large.

Observations.—This is distinguished from the genera into which Leach has divided *Cimbex* Fabr. by the number and construction of the joints of the antennæ, combined with the wing cellules. It corresponds with *Clavellaria* in its one-jointed club, but has one joint more in its antennæ, and only one radial cellule. It agrees with *Zaræa* in the number of the joints of the antennæ, but not in the number which constitute the club, nor in the number of radial cellules. With *Perga* it is related by the comparative magnitude of the scutel, and the number of joints of the antennæ, but differs remarkably in the proportions of the latter, as well as in the number of cubital cellules. *Pachylosticta* of Klug has a one-jointed club, but one joint less than the present genus, and two radial cellules ; and *Syzygonia* of the same author, with a one-jointed club, has appendiculated radial cellules.

T. NIGRA.—Body black : nasus and labrum green : spot before the wings, wing-scale and feet yellowish-green.

Inhabits Mexico.

Length to the tip of the wings three-twentieths of an inch.

The smallest species I have seen of this family with clavate antennæ. [215]

ALLANTUS Panz. Leach.

1. *A. EPINOTUS*.—Black; tergum with a white band at base; feet varied with white.

Inhabits Indiana.

Body black: mouth white; tongue piceous: thorax with the posterior edge of the collar, wing-scale, posterior edge of the scutellum, and two minute dots behind it, white; wings with brown nervures: stigma somewhat inflated: tergum with the posterior margin of the first segment white: feet white: coxæ with a dilated line before and behind; anterior and intermediate thighs and tibiæ with a black line behind, tarsi dusky at tips of the joints: posterior thighs black in the middle: tibiæ at base and tip black: tarsi, first joint black, remaining joints black, white at base.

Length ♂ three-tenths, ♀ less than two-fifths of an inch.

2. *A. GONIPHORUS*.—Black; abdomen rufous; scutellum and thoracic triangle yellow.

Inhabits Indiana.

♂ ♀ Body black: nasus emarginate, white: labrum orbicular, and with the other parts of the mouth white: mandibles at tip piceous: antennæ basal joint white: thorax with a central triangle and posterior margin of the collar white: scutellum white with a black band: wings hyaline; costal nervure and carpal spot yellowish: nervures fuscous: abdomen honey-yellow: pleura with a longitudinal vitta, and a line descending from the superior wing white: feet white: anterior pairs with a black line behind the thigh and tibia; posterior pair honey-yellow, base of the thigh, spot on the middle of the tibia, tarsus, excepting the base of the first joint and coxæ white, the latter with a black line. [216]

Length three-tenths of an inch.

A female has the basal joint of the antennæ almost black.

3. *A. APICALIS* [APICALIS].—Black; antennæ at the tip white; abdomen honey-yellow.

Inhabits Indiana.

Body black: antennæ, four last joints white: nasus profoundly lunate, white: labrum obtusely angulated before, white: thorax,

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with the posterior margin of the collar and wing-scale, white : scutel white : wings hyaline ; nervures black ; carpus white on the basal half : abdomen honey-yellow : feet honey-yellow : coxæ white.

Length seven-twentieths of an inch.

The white terminal joints of the antennæ strongly contrast with the remaining joints.

4. *A. EPICERA*.—Black ; abdomen, base of the antennæ and feet honey-yellow.

Inhabits Indiana.

♂ Body somewhat slender, black ; antennæ, first and second joints yellow, the latter two-thirds the length of the first ; third and fourth joints yellow on the upper side : nasus deeply emarginate, yellow-white : labrum suborbicular and with the mouth whitish : mandibles piceous at tip : thorax, collar and wing-scale yellow : wings hyaline ; nervures black ; carpal spot white on the basal half : abdomen honey-yellow, basal segment black : feet honey-yellow : coxæ white.

Length less than three-tenths of an inch.

Var. *a*. Scutel dull yellowish.

5. *A. CESTUS*.—Black ; a white band at base of the tergum ; pleura with a white spot.

Inhabits United States.

♂ Body black, with large crowded punctures : antennæ, [217] first and second joints yellow : nasus hardly emarginate with a lateral whitish spot : thorax with the posterior margin of the collar white : pleura with a white spot on the anterior upper part : wings tinted with fuliginous ; nervures black ; carpal spot wax-yellow : tergum with a dilated band extending to the lateral sutures, white : feet white, a little varied with yellowish at tips of the joints ; thighs black at base beneath.

♀ Anal segment white : posterior coxæ at base black : posterior thighs in the middle and their tibiæ at tip black.

Length seven-twentieths of an inch.

Resembles the *epinotus*, but may be at once distinguished by the white spot of the pleura.

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6. A. PANNOSUS.—Black; mouth white; feet varied with white.

Inhabits Indiana.

♂ Body black: nasus very deeply emarginate, white: labrum suborbicular, truncate, subemarginate before, blackish on the disk, or within the emargination of the nasus: mandibles black at tip: maxillary palpi dusky in the middle of the basal joint: thorax, posterior edge of the collar white; wing-scale blackish: wings hyaline; nervures black; carpus on the inner half dull wax-yellow: pleura immaculate; feet, anterior pairs white before, with a black line behind; coxæ white: tarsi white with dusky incisures; posterior pair black, incisures of the thighs, band on the tibiæ and base of the ultimate joints of the tarsi white; coxæ white, with a black spot above and beneath.

Length one-fourth of an inch.

♀ Coxæ with a large black spot; posterior tibiæ with a white longitudinal line.

Length three-tenths of an inch.

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Much smaller than *externus* nob., Western Quarterly Reporter. [Ante, 1, 162.]

7. A. BARDUS.—Black; thorax and anterior upper angle of the pleura rufous.

Inhabits Indiana.

♀ Body short, dilated, black: antennæ, second joint nearly as long as the first, but less dilated: front and vertex with impressed lines: nasus not deeply emarginate: labrum rounded before: mandibles piceous at tip: thorax and humeral portion of the pleura honey-yellow: wings tinged with blackish-purple.

Length three-tenths of an inch.

Belongs to the genus *Selandria* Leach. The short and dilated form is like that of *ovatus* L., and *nigerrima* Klug.

NEMATUS Jur.

1. N. VERTEBRATUS.—Green; antennæ and spots above blackish.

Inhabits Indiana.

♀ Body pale green: vertex with a black spot: antennæ black, fuscous towards the tip; second and third joints subequal; nasus

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white, somewhat bilobate : labrum not very obtusely rounded before, a little indented on the disk, white : mandibles piceous at tip : thorax trilineate with black : scutel black : wings hyaline ; nervures blackish : costal nervure and carpus pale greenish : tergum with a vitta of blackish spots, almost obsolete towards the tip : tarsi dusky.

Length one-fourth of an inch.

2. *N. INTEGER*.—Greenish-yellow ; antennæ, spots and tergum black ; costal edge not emarginate at the carpus. [219]

Inhabits Indiana.

♀ Body greenish-yellow : head with a dilated black vitta on the vertex : antennæ black : nasus whitish, not very deeply emarginate : labrum white, depressed anteriorly, rounded before : mandibles piceous at tip : thorax with three much dilated, abbreviated, black vittæ ; an oblique black spot behind the scutel : wings hyaline ; costal nervure and carpus dull waxen ; no obvious emargination on the costal edge near the carpus ; nervures blackish : tergum black ; lateral edge and posterior narrow margins of the basal segments whitish : posterior pair of tibiæ and tarsi black.

Length over one-fourth of an inch.

Resembles the preceding, but the form is much more robust, and that species has the usual emargination of the costal edge. The present species has much more of the black in its color.

3. *N. LONGICORNIS*.—Black ; beneath, head and before the wings whitish.

Inhabits Indiana.

Body black : head yellowish-white, a dilated black spot on the vertex : antennæ fuscous, joints elongated : thorax black, line before the wings and wing-scale whitish : wings hyaline, nervures fuscous : carpus rather large, yellowish : beneath greenish, or yellowish-white : pleura with two black spots beneath the wings, the anterior spot longitudinal.

Length three-twentieths of an inch.

EMPHYTUS Leach.

1. *E. TARSATUS*.—Black ; tarsi and tip of the antennæ white.

Inhabits Indiana. [220]

♀ Body black : antennæ with three and a half or four terminal
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joints white: nasus subulate: labrum rounded at tip, white, or with a dusky disk: palpi, terminal joints whitish: wing-scale whitish: wings very slightly tinged with fuliginous; carpus white on the basal half: feet, tarsi and coxæ white: anterior pairs of of tibiæ white: posterior pair of tibiæ at base white.

Length nearly one half an inch.

In form it resembles the female *Allantus atra* L., and the thorax, as well as the abdomen is entirely black.

2. E. SEMICORNIS.—Honey-yellow; tip of the antennæ and disk of the pectus black.

Inhabits Indiana.

♀ Body honey-yellow: antennæ, four terminal joints black: nasus deeply emarginate: labrum and mouth pale yellowish, the former rounded at tip: stemmata black: thorax with a dusky line on the two middle lobes: scutel dusky on the posterior edge: metathorax dusky near the scutel: abdomen immaculate, rather paler at base and beneath: wings hyaline; nervures blackish; base of the carpus yellowish-white: pectus before and on the middle black: coxæ whitish: tarsi pale: posterior thighs and tibiæ blackish at their tips.

Length over three-tenths of an inch.

A very distinct species, and easily recognized.

3. E. PLATYCERUS.—Black; tibiæ and tarsi white; first and second joints of the antennæ short, equal.

Inhabits Indiana.

♂ Body short, robust, black, polished: antennæ rather robust, compressed; first and second joints remarkably short, when taken together less than half the length of either of the others; remaining joints subequal, the third [221] hardly longest: mouth dull piceous: wing-scale dull piceous: wings fuliginous, with a violaceous tinge: feet white; thighs in the middle and coxæ black.

Length less than three-twentieths of an inch.

The joints of the antennæ are shorter and more compressed than those of any other species I have seen.

4. E. RECENS.—Antennæ, basal joint white; pectus and feet white.

Inhabits Indiana.

♂ Head black; basal joint of the antennæ, nasus, labrum and

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mouth white: thorax black, with a white collar and wing-scale: wings hyaline, nervures fuscous: tergum, on the basal half, white, with three dilated black bands slightly interrupted in the middle; terminal half somewhat fulvous, with about two marginal black spots and a larger double one each side near the tip; lateral processes at tip obvious: pectus white: pleura with a dilated black line: feet white; intermediate tibiæ and tarsi with a black line; posterior thighs tinged with honey-yellow; their tibiæ and tarsi dusky or blackish.

Length one-fifth of an inch.

XIPHYDRIA Latr.

1. *X. MACULATA*.—Abdomen black with seven lateral white spots.

Inhabits Indiana.

♂ Body black: head punctured on the front; with two small spots above the antennæ, anterior and inferior orbits extending in a line behind the eye, base of the mandibles, and two lines upon the vertex, white: thorax confluent punctured; about four short lines on the disk, white; a white spot before the wings: wings immaculate: [222] tergum with seven lateral, emarginate, white dots: beneath, on the neck and pectus with a few white spots: feet honey-yellow.

Length over two-fifths of an inch.

This is undoubtedly much like the *X. camelus* Linn., which, however, is destitute of spots on the disk of the thorax, the wings are clouded towards the tip, and there are but six lateral spots on the abdomen, the ultimate segment being immaculate.

2. *X. BASALIS*.—Black; abdomen fasciate at base.

Inhabits Indiana.

♀ Body black, polished: mandibles and palpi white: thorax, anterior segment glaucous on the posterior margin: wings hyaline; first cubital cellule confluent with the first radial, having only a rudiment of the dividing nervure: abdomen, two basal segments honey-yellow, more or less intermixed with black: feet honey-yellow; posterior tarsi and tibiæ black, the latter white at base.

Length seven-twentieths of an inch.

Found in the latter part of May.

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LYDA Fabr.

L. OCREATA.—Yellowish-green, antennæ and spots blackish.
Inhabits Indiana.

♀ Body yellowish-green: head with a spot on the stemmata and three lines behind, blackish; one or two brownish lines beneath the eyes and an obsolete one before the eyes: mandibles piceous at tip: antennæ black; basal joint dull whitish beneath: thorax with a transverse black line on the collar near the neck; another behind the collar; about four brown spots, of which the inner [223] ones are smallest; a larger brown spot behind the anterior wings: wings hyaline, with fuscous nervures; carpus greenish in the middle: tergum blackish, dull greenish in the middle: tarsi and tibiæ exteriorly dusky: posterior tibiæ blackish.

Length nearly two-fifths of an inch.

XORIDES Latr.

X. HUMERALIS nob.—Contributions of the Maclurean Lyceum, p. 74, [ante, 1, 378] where I placed it, agreeably to Jurine, in his genus *Anomalon*.

♂ Antennæ entirely black: tergum, first segment on each side with two longitudinal impressed lines; second and third segments each with an impressed oblique line each side at their bases: trochanters partly white; anterior and intermediate feet varied with whitish.

Length over two-fifths of an inch.

BRACHYGASTER Leach. (EVANIA F.)

B. RETICULATUS.—Black; first joint of the antennæ, and anterior pairs of feet piceous.

Inhabits Indiana.

Body black, reticulate with large punctures: antennæ not longer than the trunk, with close set, subequal joints; first joint subclavate, piceous, longest; second joint not longer than broad, shortest, about half the length of the third: punctures on the posterior face of the metathorax more dilated than those of the thorax: wings hyaline; nervures fuscous: petiole about as long

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as the abdomen, punctured: abdomen orbicular, polished, impunctured: feet, two anterior pairs piceous. [224]

Length about one-fifth of an inch.

I agree with Leach in the propriety of separating this group from *Evania*. In addition to the great dissimilarity of the neuuration of the wings, the proportional length of the posterior feet and of the antennæ is quite different.

PIMPLA F.

1. *P. HUMIDA*.—Black; feet yellow; thorax with white lines; abdomen with white lateral spots.

Inhabits Indiana.

Body black, transversely rugulous; anterior orbits and palpi white: thorax with rather large, transverse wrinkles; wing-scale, line before the wing, and two abbreviated dorsal lines white: wings immaculate: nervures blackish; stigma at base whitish; second cubital cellule petiolated: scutel, posterior margin white: abdomen falcate; segments, excepting the first, with a rather large, rounded, whitish, lateral spot: oviduct at least as long as the body; pectus and feet honey-yellow: tarsi whitish, incisures dusky: tibiæ whitish, posterior pairs blackish at tip.

Length over half an inch.

Form and magnitude of *P. pterelas* nob., which, however, is destitute of white spots and lines.

2. *P.?* *PETIOLATUS*.—Black; varied with yellowish-white; second cubital cellule minute, petiolated.

Inhabits Indiana.

Body black, densely punctured: hypostoma, mouth and antennæ beneath whitish: thorax with a wide, white line before the wings: wings hyaline; nervures blackish; stigma whitish towards the base; second [225] cubital very minute, the petiole being elongated: scutel dull honey-yellow: tergum densely punctured; two basal segments with an elevated, abbreviated line; that of the second segment parted into several at base, that of the first segment dilated into a groove at base; basal segment with a tubercle each side and an elevated line on the lateral margin, continued on the second segment: pleura and pectus honey-yellow varied with white: coxæ and trochanters white; posterior 1835.]

pair of coxæ honey-yellow: feet pale honey-yellow; posterior pair of thighs at tip, their tibiæ from the middle to the tip and their tarsi black: venter, in the middle, white.

Length nearly three-tenths of an inch.

A small frontal escutcheon and sessile abdomen led me to place this insect here, although the palpi are not dilated and the wing cellules differ.

AGATHIS Latr.

1. *A. POLITA*.—Black; antennæ, tibiæ and tarsi yellowish. Inhabits Indiana.

♂ Body deep black, highly polished: head yellow: vertex, front and eyes on the posterior margin, polished, black: antennæ honey-yellow: mandibles honey-yellow, black at base and tip: posterior orbits and posterior margin of the vertex, yellow: occiput obscure honey-yellow: thorax with a double, yellow, central spot, cordate spot on the scutel, abbreviated, transverse line beneath it, and posterior margin of the metathorax, yellow: wings blackish-brown; second cubital cellule quadrangular: tergum with a yellow band on the posterior margin of the first and second segments, slightly interrupted [226] in the middle: feet honey-yellow: posterior thighs black: the tibiæ pale, and tarsi yellow.

♀ Thorax with a hardly visible, piceous vitta on each side of the central spot; abdomen towards the tip attenuated.

Length nine-twentieths of an inch.

2. *A. ORNATA*.—Black, varied with yellow; tergum yellowish, fasciate with fuscous.

Inhabits Indiana.

♂ Body black, polished: head yellow, a black frontal spot confluent with a black transverse line of the vertex, that is continued on the posterior margin of the eyes: antennæ honey-yellow, somewhat dusky above: mandibles blackish at tip: thorax with a broad, yellow margin, interrupted before, and double central spot: scutel and two or three small spots beneath it yellow: metathorax with a small spot behind the wing and posterior margin yellow: wings fuliginous: stigma and costal nervure honey-yellow; second cubital cellule quadrangular: tergum yellow.

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low, becoming greenish behind, segments with a broad blackish band at base, the anterior bands broader: pleura with more of yellow than black: feet yellow: coxæ varied with honey-yellow: posterior thighs, their tibiæ at tip, and tarsi at tip, honey-yellow.

Length less than half an inch.

Resembles the preceding.

ICHNEUMON.

1. *I. SUTURALIS*.—Ferruginous; scutel yellow; sutures black. Inhabits North America.

Body pale ferruginous: antennæ black beyond the [227] middle; trunk with black sutures: scutel more or less tinged with yellow: wings tinged with ferruginous; carpus yellowish; nervures blackish; central cellule pentangular, the side on the radial cellule rather smallest, basal and apical sides longest, not parallel: metathorax with slightly elevated lines in the form of an H: tergum with the apical sutures not black; basal segment with two slightly elevated longitudinal lines: tibiæ, posterior pair black at tip: venter, basal segment black; sutures not black: oviduct not longer than the breadth of the anal segment.

Var. *a*. Front, scutel and basal joint of the tergum at tip, yellow.

Var. *β*. Sutures of the tergum not obviously black.

Var. *γ*. Somewhat polished.

A common species, of which I obtained specimens in Mexico; it is also found in Pennsylvania, Indiana and Missouri. This most resembles the *ferrugator* Swederus, (Trans. Stockholm Soc. for 1787,) which I have not met with, unless this should prove to be a variety of it, which is very doubtful and even improbable.

2. *I. MALACUS* nob. Contrib. Macl. Lyceum i. p. 72.—To “abdomen with an impressed line each side,” ought to be added beneath the edge; this is a character, however, common to many species. The tergum, in a particular light, has a slight tinge of blue. [Ante, 1, 376.]

3. *I. MORULUS* nob. (ibid. p. 73.)—Annulation of the antennæ beginning with the seventh or eight joint and ending with the fourteenth. The tibiæ and tarsi are honey-yellow; and the oviduct hardly extends beyond the tip of the abdomen.

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It resembles the *malacus*, and requires the additional description I have now given, to be distinguished from it. [228] I have found this species in Indiana, Missouri and the North-west Territory. The "acute angle" of the metathorax is prominent spiniform.

4. *I. OTIOSUS* nob. (ibid, p. 69.)—Occurs in Indiana and North-west Territory.

It resembles *unifasciatus* nob. Amer. Entom. vol. ii. [ante, 1, 48,] but is rather smaller, the annulation of the antennæ is differently situated, and it has two abbreviated white lines on the middle of the thorax.

5. *I. BREVICINCTOR* nob. Amer. Entom. pl. 22.—Terminal segment of the tergum with a large, white, rounded spot.

6. *I. PARATA* nob. Contr. MacL. Lyc. p. 68.—The following is a description of the opposite sex, and of some of its varieties.

Body black: head with yellow orbits, mouth and hypostoma: antennæ beneath dull honey-yellow; basal joint beneath yellow: thorax with two small abbreviated lines on the disk, line before the wings approaching before, and wing-scale yellow: scutel yellow: wings slightly tinged with fuliginous: nervures pale brownish; stigma dull honey-yellow; second cubital cellule pentagonal, the two recurrent nervures with a short process near their middles: metathorax with a dilated spot each side, often confluent, and a small line under the scutel: tergum with four dilated yellow bands: feet yellow; posterior thighs, excepting their base and their trochanters, black; posterior tibiæ at tip black.

Length over three-fifths of an inch.

Var. α . Tergum with but two bands.

Var. β . Metathorax immaculate behind.

Var. γ . Bands of the tergum contracted in the middle.

Var. δ . Short lines of the thorax confluent, so as to form a lunate spot. [229]

Var. ϵ . Short lines of the thorax obsolete.

A very common species. I have taken it in Missouri, Indiana, Pennsylvania and N. W. Territory.

7. *I. COMPTUS*.—Black; tergum with a yellow band on each segment.

Inhabits United States.

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Body black : head with yellow hypostoma, orbits and cheeks : thorax with a line before the wings, two slender parallel lines, nearly as long as the disk, on the middle, wing-scale, and often a short line between the wing and scutel, yellow : scutel yellow : wings tinged with fuliginous ; second cubital cellule pentagonal, the anterior recurrent nervure with a short process near the middle : metathorax with a short transverse line at tip of the scutel and two dilated longitudinal spots, yellow : tergum with a dilated yellow band on each of the segments, the 2d and 3d widest : feet yellow, or honey-yellow.

♀ with a whitish annulation rather beyond the middle line of the antennæ.

Length half an inch.

Resembles the preceding, but differs in many characters, as the two descriptions will prove.

8. I. NAVUS.—Black ; orbits, line before the wings and lateral margin of the scutel, yellow.

Inhabits United States.

♀ Body greenish-black ; head with narrow yellow orbits : palpi dull yellowish : thorax with a slender line before the wings yellow : wings a little fuliginous ; nervures fuscous : scutel with a yellow lateral margin : metathorax with a line beneath the scutel generally interrupted into two distant dots : thighs at base and tip, tibiæ at tip, and tarsi, with a slight tinge of piceous : antennæ annulate. [230]

♂ Hypostoma and mouth yellow : feet with the thighs at base and tip, tibiæ at tip and base of the joints of the tarsi, dull yellowish.

Length from nine-twentieths to three-fifths of an inch.

May be distinguished from *brevicinctor*, *unifasciatorius*, and *otiosus* nob. by its black scutel ; and from *morulus* and *malacus* nob. by having a yellow line before the wings. I have found it in Pennsylvania, Indiana and Louisiana.

9. I. DEVINCTOR nob. Amer. Entom. vol. ii. [Ante, 1, 48.]

It varies in having the scutel black and the feet entirely black.

Another variety has the tibiæ and tarsi ferruginous. My largest specimen was sent to me by Dr. Harris.

Inhabits Indiana.

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10. *I. DUPLICATUS*.—Black; abdomen rufous; metathorax with yellow marks.

♂ Body black: hypostoma, palpi and orbits yellow: antennæ with a whitish annulus beyond the fifteenth joint: thorax with the dorsal impressed lines not deep, and extending from the middle to the anterior margin; a yellow line before the wings; wing-scale dull yellowish: scutel bright yellow, a little convex: wings slightly tinted with fuliginous; stigma dull honey-yellow; second cubital cellule four-angled; the recurrent nervures with slight processes: metathorax with a large yellow W behind, and a yellow spot at tip of the scutel: tergum rufous; second segment not distinctly excavated at base each side; first segment as long as the second, slender, black at base and tinged with yellow at tip: coxæ having a yellow spot: thighs black, the two anterior pairs varied with yellowish towards the tip: tibiæ yellow; anterior pairs having a black line behind: posterior pair black at [231] tip and at the extreme base: tarsi yellowish, terminal joint black at tip.

♂ Thorax with a quadrate yellow spot on the middle.

Length over three-fifths of an inch.

The form of the abdomen is that of an *Alomya* Panz., but the wings are not remarkably short, nor are the antennæ convoluted. The markings of the metathorax are much like those of *I. pectoralis* nob.

11. *I. RESIDUUS* nob. Contr. MacL. Lyc. p. 73, resembles *suturalis* nob., but is much smaller, with tricolored antennæ.

CRYPTUS Fabr.

1. *C. ORBUS*.—Second cubital cellule incomplete; thorax with two dorsal yellow lines.

Inhabits Indiana.

Body black: orbits and hypostoma white: thorax with two lines on the disk and collar white: scutel, transverse line beneath it, and line each side at its base diverging towards the base of the wings, white: wings hyaline; nervures fuscous; second cubital cellule small, rounded, pentangular, the nervure of division from the third cellule wanting: metathorax whitish with about three black abbreviated lines: abdomen long, tapering to the base:

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tergum with the posterior margin of the first and second segments white; remaining segments more or less yellowish: pleura white, with a black furcate line: pectus and coxæ white: feet honey-yellow: posterior feet, coxæ with a black line; tarsi white; tibiæ at tip and base blackish.

Length less than one-fourth of an inch.

2. *C. DISCITERGUS*.—Whitish varied with black; tergum black, disk white. [232]

Inhabits Indiana.

Body white, slightly tinged with yellow: antennæ black: vertex with a black dot on the locality of the stemmata: thorax with an abbreviated black vitta before, and another vitta on each side, confluent upon the scutel, which is also black: metathorax black on the disk: wings hyaline; nervures brown: tergum polished, black, with a dilated whitish spot in the middle; broadest rather behind the middle, and tapering to the base: oviduct less than half the length of the abdomen: posterior thighs with a blackish line each side: posterior tibiæ blackish at base and at tip.

Length nearly three-twentieths of an inch.

Spins an oval, silken cocoon, of a white color slightly tinged with reddish.

3. *C. CONQUISITOR*.—Black; tergum with the posterior margins of the segments white; feet honey-yellow; posterior tibiæ and tarsi with black joints.

Inhabits Indiana.

Body black, punctured; palpi white; thorax, punctures minute; a longitudinal white line before the wings: metathorax not distinctly punctured on the disk: wings very slightly tinged with dusky; nervures blackish; stigma rather large, with its base and tip whitish; second cubital cellule oblique: tergum densely punctured on every part; segments on their posterior narrow margins white: oviduct about half the length of the abdomen: feet honey-yellow; intermediate and posterior tarsi white, the joints black at their tips; posterior tibiæ black, white in the middle.

Length one-fourth of an inch.

Resembles *inquisitor* nob., but the posterior margins of the segments of the tergum are white. [233]

4. *C. DUCTILIS*.—Second cubital cellule petiolated; abdomen falcate.

Inhabits Indiana.

Body black; basal joint of the antennæ beneath and mouth whitish; thorax without obvious impressed lines: wings hyaline; nervures fuscous; second cubital cellule minute, petiolated: abdomen arcuated, slender at base, more dilated and compressed towards the tip, but not truncate; honey-yellow, dusky at base: oviduct more than half the length of the abdomen, a little re-curved, black: feet honey-yellow: anterior and intermediate coxæ and trochanters whitish; posterior feet rather more dusky.

Length under three-tenths of an inch.

In the form of the abdomen and general appearance it resembles *Anomalon ejuncidus* nob.

5. *C. TENELLUS*.—Honey-yellow; wings banded.

Inhabits Pennsylvania.

♀ Antennæ blackish towards the tip: wings hyaline; a fuliginous band before the middle, and a much dilated or double one beyond the middle including the stigma; stigma triangular, and with the nervures brown; radial cellule wide; second cubital somewhat rounded, the exterior nervure wanting; apical nervure obsolete: metathorax beneath the scutel and at the insertion of the abdomen black: abdomen arcuated, blackish at tip: oviduct half as long as the abdomen.

Length nearly three-tenths of an inch.

6. *C. INQUISITOR* nob. Contrib. MacL. Lyc. p. 71.—Tergum rather densely punctured in every part; segments with a transverse, slightly indented, obtuse line in the middle: venter whitish, with black lateral spots. [234]

Var. α. Much larger; oviduct hardly over half the length of the abdomen.

Length two-fifths of an inch.

7. *C. CALIPTERUS*.—Wings yellowish, fasciate; central cellule pentagonal.

Inhabits Mexico.

Body pale ferruginous yellow: antennæ black, ferruginous at base, and with white semi-annulus on the middle: scutel with its basal angles connected with the thorax by an elevated line: wings yellowish, a black band before the middle, another beyond the middle, connected in the form of a *v* with the black apical margin; central cellule pentangular, its basal and apical lines being nearly parallel; inferior wings with a dot in the middle, and apical margin blackish: tergum with the third segment dusky or black at its base: oviduct black, nearly as long as the abdomen: posterior tibiæ blackish at tip.

Length less than three-fifths of an inch.

The remarkable resemblance which exists between the present insect and the *bifasciatus* nob. in point of color, renders it necessary, in order to prevent mistake, that we should observe that in the *bifasciatus* the oviduct is not half the length of the abdomen, and the central cellule of its wing joins the radial cellule in an acute angle, its basal and apical lines being confluent at the point of the junction with it.

8. *C. CESTUS*.—Wings hyaline, fasciate; inferior wings dusky at tip.

Inhabits Indiana.

♀ Body rufous, almost sanguineous, opaque: antennæ, excepting the two basal joints, black with a white annulus in the middle; wings hyaline, a blackish band on [235] the middle, abbreviated before; another blackish band nearer the tip abbreviated behind; tip, margin dusky; second cubital cellule pentangular, its basal and terminal lines not parallel: metathorax a little rugose each side with a short compressed tubercle each side on the declivity: tergum with the basal segment polished; third segment black at base: oviduct nearly as long as the abdomen: pleura with the incisures punctured: posterior tarsi a little paler.

Length half an inch.

This is very much like *C. calipterus* nob., but the wings are hyaline; the cellules somewhat different; the inferior wings destitute of a central spot; the body is of a deep rufous color, &c.

9. *C. PLEURIVINCTUS*.—Black; segments of the tergum margined with white.

Inhabits United States.

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Body black : thorax with a short line before the wings and wing-scale yellow : wings hyaline, with a slight dusky tinge ; nervures blackish ; stigma rufous at the stricture ; second cubital cellule quadrangular, somewhat oblique, meeting the radial cellule in an angle : abdomen almost sessile : tergum with the first segment excavated near the base : densely punctured ; all the segments with narrow, white posterior margins ; oviduct exerted, short, hardly half the length of the abdomen : feet honey-yellow ; posterior pairs with the knees, tips of the tibiæ and each tarsal joint black.

Length over half an inch.

♂ Hind pair of feet with an annulus on the tibiæ and base of each tarsal joint white.

The male is much smaller than the female. I obtained a female from a follicle of the common folliculate [236] Linnæan *Bombyx*, with transparent wings, which were extremely abundant a few years since in Maryland, causing much apprehension for the safety of the trees of their choice. Some of them were obtained for me by my friend Mr. Gilliams, for examination, when I described them under the name of *hyalina*, but did not publish the account.

10. C. GRALLATOR.—Ferruginous, with black sutures and wings.

Inhabits Indiana.

Body ferruginous : head slightly yellowish on the orbits : mandibles black at tip : antennæ dusky, before the tip yellowish : thorax with two obsolete, parallel, yellowish lines ; sutures before the wings and scutellum black : wings violaceo-fuliginous ; nervures blackish ; stigma ferruginous ; second cubital cellule rather large, pentangular, the side of the radial cellule much the smallest ; two bullæ and recurrent nervures each with one : metathorax with the sutures black ; scutellum rounded : abdomen clavate, falcate, gradually narrowed to the base, somewhat polished ; posterior margins of the segments obsoletely yellowish ; base of the segments or incisures black : pleura and pectus with black sutures ; separating suture between the pleura and metathorax black, including a yellow line : oviduct as long as the abdomen ; posterior

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pair at tibiæ and tarsi paler than the thighs; posterior coxæ nearly as long as the thighs.

Length three-fifths of an inch.

This insect differs somewhat in appearance from its congeners. The form of the abdomen, excepting that it is not compressed, the fact that it originates higher upon the metathorax than the others, and the elongated posterior coxæ, give it a little the air of a *Pænus*, but the numerously jointed antennæ place it in this family. [237]

11. *C. NUNCIUS*.—Black; abdomen excepting the base and tip rufous.

Inhabits Pennsylvania.

Body black; palpi white, blackish at tip; antennæ ♀ a long white annulus in the middle; thorax immaculate; two impressed lines: wings hyaline; nervures brown; stigma rather slender; second cubital cellule rather large, pentagonal, the two angles on the radial nervure nearly rectangular; recurrent nervures almost rectilinear: tergum basal segment wholly or in part black; second, third and generally half of the fourth rufous or honey-yellow; remaining segments black: oviduct nearly half the length of the abdomen: feet honey-yellow; posterior pair of tibiæ at tip and knees black; posterior tarsi pale yellowish.

Length about two-fifths of an inch.

I obtained many specimens from the larva of *Attacus promethea* Linn. several years ago.

12. *C. SUBCLAVATUS*.—Black; antennæ subclavate, at base and feet honey-yellow.

Inhabits United States.

Body black: antennæ on the basal half piceous or dark honey-yellow, dilating gradually towards the tip, terminal half dusky or black; first joint robust: thorax depressed on the posterior disk, in which are longitudinally confluent punctures; a slightly elevated line before the bi-foveolate scutellar groove: wings, radial cellule rather wide and short: cubital cellule pentangular, sides subequal, angles at the radial cellule nearly rectangular: abdomen ♀ oval, honey-yellow, dusky or blackish at base and tip: oviduct nearly half the length of the abdomen: feet honey-yellow.

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Length under one-fifth of an inch.

[238]

Approaches a little to the genus *Helwigia* by the form of its antennæ. I found one specimen in Pennsylvania and another in this State.

13. *C. MICROPTERUS*, ♀.—Black; feet and middle of the abdomen rufous; wings abbreviated.

Inhabits Pennsylvania.

Body black: antennæ, honey-yellow, with a paler yellow annulation: palpi whitish: wings not reaching the tip of the metathorax: metathorax concave behind; posterior angles a little prominent: tergum polished, suboval; first segment black; second and third honey-yellow; remaining segments black: oviduct half the length of the abdomen: feet honey-yellow, paler at their origin; posterior pair of thighs and tibiæ each at tip blackish.

Length one-fifth of an inch.

This seems to be related to *C. abbreviatus* Fabr., but it has no "striga alba."

OPHION Fabr.

1. *O. PURGATUS*.—Honey-yellow; two opaque dots in the first cubital cellule.

Inhabits Indiana.

Body pale honey-yellow, somewhat sericeous: antennæ rather longer than the body: orbits yellow, dilated before so as to occupy the greater part of the hypostoma: ocelli large, prominent: wings hyaline; stigma slender; first cubital cellule with two opaque, subtriangular spots; second cubital cellule none: metathorax with a single, raised, rectilinear, transverse line, near the base.

Length about seven-tenths of an inch.

This is much like an insect sent me by Mr. Winthem [239] as the *ramidulus* Fabr., which has also opaque wing-spots, but is black on the tip of the abdomen. The *bilineatus* nob., may be distinguished from this species by having many raised lines on the metathorax and by being destitute of the opaque wings-spots. The sexes are similar in color, and both have the opaque wings-spots, which is not the case in Mr. Winthem's specimens of *ramidulus*.

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2. *O. GLABRATUS*.—Honey-yellow; a glabrous spot in the large cubital cellule.

Inhabits Indiana.

Body dull honey-yellow: head bright yellow: antennæ, mouth and stemmata honey-yellow: eyes blackish: wings, first cubital cellule beyond its middle with a longitudinally oval glabrous space, but destitute of any opaque spot: metathorax transversely wrinkled near the petiole of the abdomen.

Length about four-fifths of an inch.

Much like *purgatus* nob., with a similar glabrous spot in the cubital cellule, but this spot is destitute of any appearance of the opaque coriaceous spots which distinguish that species.

3. *O. MUNDUS*.—Black; antennæ, posterior tibiæ and tarsi yellow.

Inhabits Indiana.

♂ Body black: head with the front, nasus and anterior orbits greenish-yellow: antennæ fulvous yellow; three or four basal joints above black; the first joint beneath greenish-yellow: trunk with rather dense, short hairs: wings purple-black: abdomen much compressed: basal joint cylindrical; second segment as long as the first, or a little longer, compressed towards the tip: anterior pair of the feet yellowish before: intermediate pair with a line before and base of the tibiæ yellowish: [248] posterior pair with the tibiæ, excepting the tip, and the tarsi, excepting the terminal joint, fulvous-yellow.

Length nearly one inch.

Resembles *flavicornis* nob., which, however, has the first segment of the abdomen considerably longer than the second. It is also allied to *morio* Fab., but that species is described to have the wings blue, tipped with brown, and the legs black, the anterior ones testaceous.

4. *O. BILINEATUS* nob.—Contributions of the Maclurian Lyceum, p. 75.

This is the analogue of the *O. luteus* Fab.

5. *O. BRACHIATOR*.—Black; abdomen and feet yellowish; a petiolated second cubital cellule.

Inhabits Indiana.

Antennæ, first joint beneath, white: mandibles whitish, piceous
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at tip: palpi white; wings hyaline; stigma slender, blackish; second cubital cellule rather large, quadrangular, more or less petiolated from the radial cellule, anterior recurrent, nervure a little arcuated, not angulated and with a white bulla: second recurrent nervure rectilinear, with a white bulla; metathorax with an impressed longitudinal line, and a transverse raised one at base; abdomen honey-yellow; first joint white at base; second joint blackish above: feet, posterior pair honey-yellow, tarsi blackish; intermediate pair white, with honey-yellow thighs; anterior pair white.

Length nine-twentieths of an inch.

I place this in the genus *Ophion* because of the compressed, falcate abdomen, notwithstanding the existence of the second cubital cellule. [241]

ANOMALON Jurine.*

1. A. ATTRACTUS.—Black; feet and base of the abdomen honey-yellow.

Inhabits Indiana.

Body black, somewhat polished: frontal orbits, part of the hypostoma and mouth yellowish-white: thorax, line before the wings and wing-scale whitish: wings hyaline; nervures fuscous, towards the base whitish; stigma whitish towards the stricture; second cubital cellule destitute of the exterior nervure; recurrent nervures each with a bulla: scutel pale yellow: metathorax with a transverse pale yellow line beneath the scutel: abdomen honey-yellow; posterior half of the 4th segment and the remaining segments black; first segment sessile, with an arcuated groove in which are many elevated lines; 2d segment with two less arcuated ones; 3d and 4th segments each with one of the grooves; all the yellow portion of the tergum has large close-set punctures: feet honey-yellow, origin of the anterior pair pale yellow: posterior tibiae black towards the base, with a large white annulus; posterior tarsi black: pleura with a white line before: pectus

* I place in this genus, those species that are destitute of the small cubital cellule, and which have not the abdomen so compressed and truncated, as to associate with *Ophion*.

having an angulated white line: oviduct not extending beyond the tip of the abdomen.

Length one-fifth of an inch.

2. *A. EJUNCIDUS*.—Ferruginous, reticulate with large punctures; pectus black.

Inhabits United States.

[242]

Body ferruginous, with crowded, discoidal punctures, giving the surface a reticulate appearance: head without obvious punctures; orbits tinged with yellow: antennæ blackish; first joint yellowish beneath: thorax with a slightly impressed line before, and another each side behind, obsolete; dilated sutures about the scutellum black: wings hyaline; nervures blackish; stigma rather slender; second cubital cellule none, the anterior recurrent nervure obtusely arcuated; second recurrent nervure rectilinear; abdomen slender, dull honey-yellow, piceous black above and at tip, without large punctures: oviduct as long as the basal joint of the abdomen: feet dark honey-yellow: pleura above the anterior feet with oblique lines: pectus black.

Length about two-fifths of an inch.

3. *A. MELLIPES*.—Black; feet honey-yellow; posterior thighs armed with a spine.

Inhabits Indiana.

Anomalon mellipes nob. Contrib. Macl. Lyc. p. 74.

♀ Body black, polished: head with the distance behind the eyes considerable: labrum dull piceous: palpi dull whitish: thorax with the impressed lines rather deep, rendering the thoracic lobes very distinct: wings with a slight dusky tint; metathorax with an obvious spine on each side of the posterior declivity: feet honey-yellow: coxæ and thighs robust, particularly those of the posterior pair, of which the thighs are armed beneath near the tip with a prominent spine: oviduct as long as the body, or a little longer, somewhat compressed towards the tip.

Length nearly seven twentieths of an inch.

♂ Anterior and intermediate thighs rather less robust.

Length less than seven-twentieths of an inch.

[243]

Has some resemblance to a *Xorides*, but the mandibles are bidentate, and the metathorax and anterior part of the thorax differ. It is a very distinct species. I have thought it may be 1835.]

useful to give the above more detailed and characteristic description than that quoted, which is too short and unimportant. A good name for this species would be *gladiator*.

4. *A. DENSATUS*.—Black; thorax rufous; tergum densely punctured.

Inhabits Indiana.

Body black, with short, small hairs: above with a white spot; face, below the antennæ, and mouth, pale yellowish: antennæ —: thorax reddish-brown; with an abbreviated black vitta: scutell reddish-brown: wings hyaline; nervures fuscous; stigma yellowish: abdomen sublinear, not attenuated towards the base, but in the first joint: tergum with dense, rather large, but not profound punctures; posterior edges of the segments slightly rufous: oviduct nearly half the length of the abdomen: feet dull yellowish; coxæ and trochanters whitish; tips of the tibiæ and of the tarsi dusky.

Length ♀ over one-fifth of an inch.

5. *A. RECURVUS*.—Black; feet honey-yellow; posterior tibiæ and tarsi with black joints.

Inhabits Indiana.

Body rather slender, black: head not extended behind the eyes: orbits, nasus and palpi white: thorax trilobate (as in *Xorides* and *Pimpla*) with a white line before the wings: metathorax long, convex: tergum equal in width, basal segment a little narrower at base; segments subequal in length; first and second segments with a transverse impressed line near the tip; remaining segments, excepting the last, with a lateral, transverse, impressed [244] line at their middles: oviduct less than half the length of the abdomen, a little recurved at tip: feet honey-yellow; intermediate and posterior pairs of tarsi white, the joints black at their tips; posterior pair of tibiæ black, white in the middle.

♂ much smaller: thorax tinged with piceous; hypostoma white; pectus honey-yellow; feet paler than in the female.

Length three-tenths of an inch.

The metathorax is convex as in *Xorides*, elongated, but the head is transverse and not globular.

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6. A. LINEATULUS.—Black; anterior pairs of feet honey-yellow; tergum with minute lines.

Inhabits Indiana.

Body black, sparsely punctured: palpi whitish: thorax with two deeply impressed lines, uniting behind: wings hyaline: nervures fuscous: scutellum at base with a dilated indentation: metathorax with raised lines: abdomen gradually tapering to the base: tergum on the three basal joints, with numerous, small, longitudinal, raised lines; fourth and following segments with much more minute transverse ones: feet, anterior pairs entirely honey-yellow; posterior pair black, the incisures yellowish; posterior tarsi yellowish.

Length ♂ over one-fourth of an inch.

This has some resemblance to *mellipes* nob., which, however, has the posterior thighs thickened and with an obvious tooth on their inferior edge.

The lineations of the tergum of the three basal segments distinguish this species.

7. A. DIVARICATUS.—Black; tergum with two oblique, impressed lines on each segment.

Inhabits Florida.

[245]

Body black: wings with fuscous nervures, dull yellowish towards the base: abdomen nearly sessile, minutely and densely punctured; first segment with two longitudinal, elevated lines; second, third and fourth each with two very obvious, impressed lines, originating at the base and divaricating towards the posterior angles: feet honey-yellow: posterior pair, thighs at tip, tibiae at tip and annulus near the base, and posterior halves of the tarsal joints black.

Length over two-fifths of an inch.

Has considerable resemblance to *Ichneumon inquisitor* nob., but the impressed lines of the tergum are very oblique, and the wings are destitute of the small second cubital cellule.

8. A. EMARGINATUS nob. Contrib. Macl. Lyceum, p. 76.—This species is very remarkable by the prominence of the head in front of the insertion of the antennæ, which hence appear to be situated in a deep foveola; this character, together with the 1835.]

very short, robust feet, proves a close relation to *Alomya*, to which in fact I would refer the species, but that there is no appearance of a second cubital cellule; the antennæ have thirty-six joints.

PELTASTES Illig.

1. *P. POLLINCTORIUS*.—Black; two thoracic spots, scutel, and bands of the tergum yellow; tibiæ black.

Inhabits Pennsylvania and Indiana.

♀ Body black, densely and closely punctured: head ———: thorax with a yellow line before the wings: scutel quadrate: lateral edge elevated; posterior margin, including the prominent spines, yellow: wings with a tint of ferruginous; nervures fuscous: stigma paler in the [246] middle: metathorax with a short, transverse line beneath the scutel, and dot each side at tip yellow: tergum slightly tinged with violaceous, particularly towards the tip; posterior margins of the segments yellow excepting the second and sixth, of which the former has the lateral angle obscurely yellow: feet, anterior pairs honey-yellow; the thighs black behind; posterior pair black, the thighs yellow at base.

Length about seven-tenths of an inch.

♂ Basal joint of the antennæ beneath whitish: frontal escutcheon on its lateral and basal margins, extending a short distance upon the orbit, yellow: dilated joint of the palpi dull whitish: metathorax with a yellow spot near the posterior coxæ: coxæ and knees honey-yellow.

Length over two-fifths of an inch.

The female was presented to me several years ago by Mr. Lesueur, who obtained it in the neighborhood of Philadelphia. It is much like *P. necatorius* Fabr., but is considerably larger, and that species is destitute of spots on the metathorax, and its posterior tibiæ are yellow.

The male was taken by myself in Indiana.

BANCHUS Fabr.

1. *B. NERVULUS*.—Black; anterior pairs of feet and posterior tarsi yellow.

Inhabits Indiana.

Body black: mandibles polished at tip: tongue rather promi-

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ment: wings dark violaceo-fuliginous; nervures blackish; stigma honey-yellow; second cubital cellule quadrangular, attached to the radial cellule by a slightly petiolated angle; first recurrent nervure with a prominent [247] process and a small white spot; second recurrent nervure much undulated, margined with white one half its length; exterior nervure of the cellule with a white spot: feet, anterior pairs, excepting the coxæ and trochanters, honey-yellow; posterior pair black, their tarsi yellow.

Length at least half an inch.

2. *B. ÆQUATUS*.—Black; antennæ and feet, excepting the hinder thighs yellow.

Inhabits Indiana.

Body black: antennæ yellow, at tip and base a little dusky: hypostoma with two slight lobes situated longitudinally, and with the mouth and orbits yellow: thorax with a slightly indented line each side before and another over the wings: wings violaceo-fuliginous; nervures and stigma blackish, the latter with a whitish dot at its stricture; second cubital cellule pentangular, the two angles on the costal side rectangular and the three corresponding sides equal, the two anal sides shorter than equal, two sides with a white spot, and the two recurrent nervures with each a white spot: wing-scale and junction of the wings with the thorax honey-yellow: feet, anterior pairs honey-yellow; posterior pair with the tibiæ and tarsi yellow.

Length about half an inch.

It has much resemblance to *Agathis polita* nob.

3. *B. FUGITIVUS*.—Second cubital cellule petiolated; posterior tibiæ annulate.

Inhabits Indiana.

Body black: antennæ in both sexes black: mandibles and palpi white: wing-scale white: wings hyaline; nervures black, whitish at base; second cubital cellule very small, petiolated from the radial cellule: metathorax [248] not obviously excavated behind, but with somewhat raised lines; abdomen arcuated; towards the tip rather abruptly clavate; punctures very small: oviduct as long as the tip of the abdomen: feet honey-yellow, with a white reflection; posterior tibiæ white with black

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tip and base ; posterior tarsi black, base of the first joint white, in the male the white of the posterior tibiæ is less obvious.

Length from one-fourth to three-tenths of an inch.

I obtained a specimen from a very pretty cocoon which is somewhat cylindric, white, with two maculated black bands.

ACÆNITUS Latr.

1. *A. DECORUS*.—Black varied with whitish ; posterior tarsi whitish.

Inhabits Indiana.

♀ Body black : orbits white, interrupted above and before : hypostoma white, nasal sutures black each side : mandibles black : antennæ with ten or twelve white joints beyond the middle : thorax with the line over the wings, wing-scale, line before the wings, and lateral and posterior margin of the anterior lobe white : scutel white : wings hyaline, with a rounded fuscous spot at tip : metathorax, a small spot under the scutel and behind whitish : abdomen, posterior margins of the segments white ; in profile clavate ; dorsal view fusiform : venter white ; scale prominent, acute : oviduct much longer than the abdomen : pleura varied with yellowish : feet honey-yellow : posterior pair of coxæ with three large yellow spots ; incisures of the posterior thigh black ; posterior tarsi whitish. [249]

Length nearly three-fifths of an inch.

♂ Orbits white uninterrupted : thorax more variegated with white ; antennæ with about eight white joints : scutel with a black disk, the white margin extending forwards in the form of a V : metathorax black varied with white, spines prominent : tergum, first joint on the lateral margin white as well as the tip : second segment with a much arcuated line each side of the middle, curving forwards ; remaining segments with the posterior margins dull whitish ; venter blackish, somewhat banded ; pleura whitish, with a black line under the wings ; anterior portion black with white lines ; pectus pale honey-yellow ; coxæ, posterior pair with a black line.

Length nine-twentieths of an inch.

This is a very prettily variegated species.

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2. A. MELLEUS.—Honey-yellow : antennæ white, blackish at base.

Inhabits Indiana.

♀ Body honey-yellow ; head with a large black spot above the antennæ ; beneath the antennæ yellowish ; antennæ white ; basal third above black ; occiput with a dusky spot ; scutellum yellow, the sutures around it black : wings with a blackish tip ; tergum, sutures somewhat dusky ; tibiæ and trochanters yellowish.

Length two-fifths of an inch.

BASSUS Fabr.

1. B. SANCTUS.—Black ; metathorax, abdomen and posterior feet sanguineous.

Inhabits Indiana.

♀ Body black : palpi tinged with piceous ; thorax, pleura, pectus, and two anterior pairs of feet immaculate ; [250] wings blackish-violaceous, with a hyaline literation in the middle ; nervures black : separating nervure between the first cubital and first discoidal cellules widely interrupted ; second cellule triangular ; cubital cellule rather large ; metathorax and abdomen bright sanguineous ; posterior coxæ and thighs bright sanguineous, the intervening trochanter black : posterior tibiæ dull sanguineous, their tips dusky, their tarsi blackish ; oviduct nearly as long as the body, ferruginous, with black valves.

Length over three-tenths of an inch.

At first view resembles *Bracon initiator* F.

2. B. LIMITARIS.—Black ; feet honey-yellow.

Inhabits Missouri and Indiana.

Body black ; palpi white ; thorax longitudinally indented behind the middle ; wings nearly hyaline, at base yellowish ; nervures fuscous ; stigma large ; first cubital cellule complete ; second rather large, quadrangular ; radial cellule also rather large ; feet honey-yellow ; posterior pair of tibiæ whitish, their tips and annulus near the base black ; posterior pair of tarsi black.

Length seven-twentieths of an inch.

Var. *a.* Maxillary palpi, first joint black.

♀ Oviduct hairy, decurved, somewhat robust.

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3. *B. GIBBOSUS*.—Black; nasus gibbous; terminal joints of the antennæ short.

Inhabits Indiana.

♀ Body somewhat polished, black; nasus with a prominent gibbosity; antennæ with the joints of the terminal third not longer than broad: wings slightly fuliginous: stigma robust; the abbreviated nervure at base stigma very robust and very near to the costal nervure: tergum, second segment at base with two large foveolæ; oviduct as long as the abdomen and thorax together; [251] feet, terminal half of the thighs and basal portion of the tibiæ dull honey-yellow.

Length hardly over one-tenth of an inch.

The smallest species I have met with.

BRACON Jurine, Latr.

† Separating nervure between the radial and cubital cellule arcuated; second cubital cellule not very much elongated.

1. *B. PECTINATOR*.—Black; abdomen yellowish; wings blackish; cellules regular.

Inhabits United States.

Head rather large and robust, concave behind at the neck; rostrum not prominent; thorax with the dorsal sutures dilated and containing very obvious transverse lines; the transverse suture at base of the scutel with five elevated lines; wings dark violaceous; second cubital cellule shorter and smaller than the first, quadrangular; nervure forming the radial cellule rectilinear; oviduct exerted, black.

Length ♀ to tip of wings nearly two fifths of an inch.

I am not certain whereabouts this insect was captured, but I think I obtained it in the N. W. Territory when engaged on the northern expedition with Major Long.

It resembles the *populator*, but the rectilinear form of the nervure of the radial cellule places it nearer *rugator* nob., and *initiator* F.; from the former it is distinguished by the more simple surface of the tergum, and from the latter by the much shorter second cubital cellule.

2. *B. RUGATOR*.—Sanguineous; head, wings and feet blackish; tergum wrinkled.

Inhabits Indiana.

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Rostrum distinct : head piceous ; antennæ black ; [252] thorax polished ; wings purplish-fuliginous, with three or four obsolete, small, white spots ; cellules regular ; tergum with numerous longitudinal, elevated lines on each segment ; first segment with the lines transverse and interrupted by a large, elevated oval lobe on the disk, which has a longitudinal line and irregular rugæ ; the lateral edge elevated ; second and third segments with an oblique indented line at base each side ; oviduct two-thirds the length of the abdomen, black, clothed with short hairs ; feet piceous-black.

Length ♀ three-tenths of an inch.

The remarkable appearance of the tergum readily distinguishes this species from *populator* nob., which it resembles. It has a general resemblance to *B. initiator* Fabr.

3. *B. HEBETOR*.—Black ; head, thoracic lines, tibiæ and base of the abdomen honey-yellow.

Inhabits Indiana.

Body black, polished ; head pale honey-yellow ; antennæ, region of the stemmata, of the antennæ and spot on the hypostoma, black ; mandibles robust, black at tip ; thorax with two obsolete, piceous, oblique lines confluent at the middle and terminating in a spot each side of the scutel ; wings dusky, nervures black ; stigma rather large ; nervure from the stigma, oblique to the second cubital ; abdomen depressed, oblong-ovate ; coxæ, knees and base of the tibiæ, yellowish-white : oviduct shorter than the abdomen.

♂ Abdomen whitish at base.

Length nearly one-tenth of an inch.

The antennæ of the male are twenty-two-jointed and those of the female are short, more robust, fourteen-jointed. The short, thoracic piceous lines have sometimes a cruciform appearance by being continued around the scutel. [253]

4. *B. DORSATOR*.—Yellowish, antennæ, three thoracic lines and tip of the tergum, black.

Inhabits Indiana.

Body yellowish, somewhat fulvous, a little polished : antennæ short, rather robust, black ; area of the stemmata blackish : tho-

rax with three distant black, short lines, the anterior one shortest and impressed: wings hyaline, slightly dusky towards the base; cellules regular; nervures brownish; stigma triangular, yellow-brown: tergum with a black dot on the first segment, and dusky on the disk or towards the tip: pleura with a blackish line behind the wing: pectus blackish on the disk: feet with the tarsi dusky at tip.

♀ Oviduct half as long as the abdomen.

Length to the tip of the wings less than three-twentieths of an inch.

Much like *hebetor*, but is somewhat larger and more robust; it may be distinguished at first by its lighter color. As in that species the first cubital cellule is wider by one-third than the second at their junction, and the latter is hardly as long as the first, in either sex.

5. *B. ARGUTATOR*.—Honey-yellow; antennæ, terminal joint of the tarsi and oviduct, black.

Inhabits Indiana.

♀ Body honey-yellow, somewhat polished: antennæ black: mandibles piceous: hypostoma with a transverse, dilated indentation: stemmata blackish: thorax immaculate: wings very slightly tinged with dusky; nervures blackish; stigma yellowish in the middle; second cubital cellule as long or rather longer than the first, and nearly as wide at their junction: tergum of a rather paler yellow than the thorax, and opaque with minute punctures or granules, oblong-oval: oviduct black, half as long as the abdomen: tarsi, terminal joint blackish. [254]

Length to tip of wings over three-twentieths of an inch.

Of the same general habit with *hebetor*, but is considerably larger, and may be known at once apart from it, by the equality, at their junction, of the 1st and 2d cubital cellules, by the punctured tergum, &c.

6. *B. VESTITOR*.—With prostrate hairs; basal joint of the tergum bisinuate at tip.

Inhabits Mexico.

♂ Body with very numerous, minute, prostrate hairs: head blackish, with dilated dull fulvous orbits; before the antennæ

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more prominent than above, and convex: antennæ dull yellowish: thorax dull fulvous, with three dilated black lines, of which the middle one is abbreviated before the middle: metathorax dusky: wings hyaline: tergum yellowish, somewhat polished towards the tip; lateral edge dusky; first segment at tip bisinuate or three-angled: feet paler: thighs a little dusky.

Length of the body three-twentieths of an inch.

Somewhat resembles the preceding, but the hairy vesture distinguishes it from all the foregoing species.

7. *B. SCRUTATOR*.—Yellowish; with prostrate hairs; 1st joint of the tergum bisinuate at tip, black at base.

Inhabits Indiana.

♀ Rather dull honey-yellow, with minute hairs: head more prominent and paler beneath the antennæ: antennæ dull yellowish: stemmata black: thorax with a slender black line each side: pleura with a black oblique line under the wings: metathorax black: wings hyaline; nervures pale brownish; stigma yellowish at base; 2d cubital cellule shorter and narrower than the first: tergum elongate sub-obovate, black at base, this color extending paler on each side; middle of the disk towards the base [255] pale yellow extending on the tip of the first segment, which is sub-bisinate or slightly three-angled; second segment as well as the first with an elevated line: oviduct not exerted beyond the tip of the abdomen, black.

♂ Third and following segments of the tergum annulate with black; no elevated line on the tergum, nor three-angled appearance of the tip of the first segment.

Length less than one-fifth of an inch.

Resembles *vestitor*, but is more slender, larger, and differently marked.

8. *B. RUGULOSUS*.—Honey-yellow; head, breast and three lines on the thorax black.

Inhabits Indiana.

Body honey-yellow; head with rather wide and slightly impressed punctures, which on the front are transversely confluent into minute rugæ: mouth obscure piceous: antennæ obscure piceous, black towards the tip: thorax somewhat tinged with sanguineous, and with three abbreviated, blackish vittæ; behind 1835.]

the intermediate vitta is a rugous space, with a slightly elevated line : wings hyaline ; nervures and carpus blackish : cubital cellules three ; metathorax rugous, with an elevated line : abdomen longitudinally rugous, oblong : with three larger segments, decreasing in length : and three smaller ones at tip, taken together hardly longer than the third : pectus in the middle black.

Length one-fourth of an inch.

The magnitude of the three basal segments of the abdomen is remarkable in this species.

9. *B. TRANSVERSUS*.—Granulated ; nervure from the stigma nearly transverse.

Inhabits Indiana.

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Body densely punctured or granulated ; blackish-piceous : antennæ, mouth and feet honey-yellow : wings hyaline : nervures brown ; stigma large : nervure from the stigma to the second cubital cellule nearly transverse, so as to make the three angles at its contact, equal : tergum dull honey-yellow at base ; first segment with two prominent, parallel lines ; second segment occupying three-fourths of the whole surface : oviduct shorter than the abdomen.

Length over one-twentieth of an inch.

The whole surface has a minutely granulated appearance, and the nervure from the stigma is more than usually transverse, having but a very slight obliquity. In having but two principal segments to the abdomen, this species approaches the genus *Sigalphus*, but the venter is not deeply vaulted as in that genus.

10. *B. MELLITOR*.—Honey-yellow ; antennæ dusky.

Inhabits Indiana.

♂ Body honey-yellow, polished : antennæ dusky : thorax immaculate : wings hyaline ; nervures fuscous ; stigma yellowish at base ; 2d cubital cellule as long as the first, but somewhat narrower than the greatest width of the latter : tergum short, oval, not polished ; paler than the thorax, with minute, prostrate hairs ; second segment with an indented dot each side : oviduct black, as long as the abdomen : tarsi, terminal joint blackish.

Length of the body three-twentieths of an inch.

The wing-stigma is sometimes almost entirely black.

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†† Separating nervure arcuated ; second cubital cellule elongated ; the nervure from the stigma inserted at its middle.

CELEREON.

11. *B. INESCATOR*.—Pale dull yellowish ; palpi and feet whitish.

Inhabits Indiana.

♀ Body dull yellow, with a slight intermixture of honey-yellow, immaculate : antennæ blackish towards the tip : mandibles piceous at tip ; wings hyaline, with a very slight dusky tinge, and yellowish at base ; nervures of the middle of the wing and disk of the stigma fuscous : abdomen oblong subobovate : oviduct black, hardly half the length of the abdomen : palpi long, white : feet white.

Length of the body two-twenty-fifths of an inch.

12. *B. PULLATOR*.—Black ; abdomen at base and feet yellowish.

Inhabits Indiana.

♀ Body black, a little polished : antennæ towards the base obscure yellowish, first joint pale honey-yellow : mouth pale piceous : mandibles at tip blackish ; wings hyaline ; nervures brownish ; stigma fuscous : tergum oblong sub-obovate, disk near the base dark honey-yellow : oviduct longer than the abdomen, black : feet pale honey-yellow.

Length less than one-tenth of an inch.

13. *B. HONESTOR* nob. Contr. Macl. Lyc. vol. i. p. 78, belongs also to this subdivision.

14. *B. PAULULOR*.—Black ; abdomen short ; feet whitish.

Inhabits Indiana.

Body black : head large : antennæ fuscous, obviously longer than the body : mandibles yellowish : palpi white : [258] wings hyaline ; stigma elongated, slender ; second cubital cellule elongated, having the nervure from the stigma inserted at about one-third its length : abdomen short : oviduct very short : feet honey-yellow, a little dusky towards their tips.

Length less than one-twentieth of an inch.

The second cubital cellule is elongated, but the descending nervure from the stigma is inserted considerably behind the middle.

††† Separating nervure between the radial and cubital cellule reclivate. 1835.]

TOXONEURON.

15. *B. VIATOR*.—Sanguineous; antennæ, vertex, wings and pectus black.

Inhabits Indiana.

Body rather pale sanguineous: antennæ, vertex and dilated frontal spot, part of the hypostoma and mouth, black: thorax with indented lines; a black spot on the middle sometimes obsolete or wanting: metathorax behind black: wings blackish-fuliginous; nervures robust, black; stigma and costal nervure honey-yellow: pleura, pectus and coxæ black; the former sanguineous near the wings: tarsi at tip blackish: abdomen depressed.

Length one-fourth of an inch.

This species and the following differ from the type of the genus *Bracon* in the form of the radial and third cubital cellules, in consequence of the arcuation of the separating nervure.

It is much like *populator* nob., but among other characters it may be distinguished by the yellowish carpal spot and costal nervure, which are always black in the *populator*.

15. *B. POPULATOR* nob. Long's Exp. to St. Peters, Appendix, p. 323. belongs to this subdivision. [259]

17. *B. TIBIATOR* nob. *ibid.* p. 322. also of this subdivision.

18. *B. EXPLORATOR*.—Black; feet partly rufous.

Inhabits Indiana.

Body black, polished; with small, prostrate hairs: thorax with the impressed lines not remarkably dilated; the transverse one punctured: wings dusky, stigma rather large: feet black; thighs rufous, excepting a small portion at base, posterior pair entirely rufous; tibiæ rufous, black at tip.

Length three-twentieths of an inch.

The thorax and head are much less hairy than those of *tibiator* nob., and that insect has the wings dusky at tip only; the present also is a smaller species.

††† Second cubital cellule confluent with the third.

ALIOLUS.

Abdomen of three principal segments.

19. *B. TRILOBATUS*.—Yellowish-rufous; thorax and vertex black.

Inhabits Indiana.

Body rufous, tinged with yellowish : head black on the vertex : antennæ blackish, excepting the two or three basal joints ; about as long as the body : mandibles black at tip : thorax somewhat trilobate, black, with an obsolete rufous central spot : scutel black : wings hyaline ; nervures and robust carpus black ; second cubital cellule confluent with the third ; inferior discoidal cellule half as large as the central one : posterior tibiæ dusky except at base : coxæ yellowish : abdomen oblong subovate, short, dusky at tip ; densely punctured, with three segments, decreasing in length ; a small, almost concealed terminal segment.

Length ♂ one-fifth of an inch.

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The cubital cellules are but two, the second transverse nervure being entirely wanting, and the nervure forming the anal side of the cubital cellules is very slender ; the other nervures being quite robust. If the genera throughout this order, are not to be divided as in the *Tenthredinetæ*, I would propose the separation of this and the following species, under the generic name of *Aliolus*.

The character of the abdomen agrees with this genus ; but the neururation of the wings seems to agree rather better with *Microgaster*.

20. B. THORACICUS.—Black ; thorax and feet honey-yellow.

Inhabits Indiana.

♀ Head ———: thorax honey-yellow, with two oblique, lineated grooves ; suture before the scutel much dilated and profound : wings hyaline ; radial cellule with the nervures as distinct as the others, regularly arcuated, without any angulation ; second cubital cellule much dilated and destitute of the exterior nervure : metathorax black : abdomen minutely punctured or lineated at base, polished towards the tip, oval ; second incisure indistinct : oviduct longer than the abdomen : feet honey-yellow.

Length less than one-tenth of an inch.

MICROGASTER Latr.

1. M. ENSIGER.—Black ; feet and each side of the base of the abdomen yellowish.

Inhabits Indiana.

♀ Body black, with dilated punctures and minute hairs : mouth honey-yellow : palpi white : thorax with a yellow wing-scale ; 1835.]

suture before the scutellum impressed [261] and with elevated lines: wings hyaline; nervures fuscous, light brownish towards the base; stigma triangular, fuscous; second cubital cellule destitute of the exterior nervure; terminal nervures obsolete: tergum with large close-set punctures; towards the tip somewhat polished: first segment with a yellow lateral margin, dilating a little towards the tip; third segment with a yellow point on the lateral margin: abdomen each side and beneath, except at tip, yellowish: oviduct black, nearly as long as the abdomen, with rather long hairs: feet honey-yellow; posterior tibiae, excepting at base, black: posterior tarsi blackish, with the incisures pale.

♂ Coxæ and anterior pairs of tibiae and tarsi whitish: posterior tibiae, at tip only, dusky, at the extreme base whitish; second cubital cellule complete; terminal wing nervures distinct.

Length ♂ over one-tenth, ♀ less than three-twentieths of an inch.

2. *M. MELLIPES*.—Black; thorax with oblique, lined sutures; feet honey-yellow.

Inhabits Indiana.

♂ Body black: hypostoma somewhat prominent along the middle: stemmata rather prominent: antennæ beneath towards the base piceous: mandibles honey-yellow: palpi blackish or fuscous: thorax with two oblique impressed lines confluent behind, in which are several transverse lines; and a transverse more dilated one at the base of the suture; wings hyaline; nervure of the radial cellule as distinct as the others; second cubital cellule destitute of its terminal nervure; apical nervures less distinct than the discoidal ones, but not obsolete: tergum somewhat fusiform, polished, a little hairy at base and tip: venter at base honey-yellow, pale: thighs and coxæ honey-yellow: tibiae and tarsi dusky.

Length nearly three-twentieths of an inch. [262]

Distinguished at once from the *ensiger* by the oblique thoracic lines.

3. *M. XYLINA*.—Tergum at tip polished; sides of the venter yellowish.

Inhabits Indiana.

Body black, much punctured: antennæ brownish beneath: palpi white: thorax destitute of oblique lines, but with the

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transverse, dilated, deeply indented groove at base of the scutel, having small raised lines within, which are not very obvious: wings hyaline: nervure of the radial cellule obsolete at base; second cubital cellule destitute of the exterior nervure: stigma triangular, fuscous: tergum oblong-oval, punctured, glabrous, and polished at tip; basal segment rather rough, the lateral edge a little elevated and dull yellowish; venter each side, excepting at tip, dull yellowish: oviduct not exerted beyond the tip of the abdomen: feet honey-yellow, tips of the posterior thighs above slightly blackish.

Length nearly one-tenth of an inch.

It resembles the *ensiger* very much in its markings, but the oviduct is not exerted. Great numbers are deposited together, and they ultimately spin their cocoons and envelope them with an exquisitely fine silky substance, which has been called "animal cotton."

4. *M. CONGREGATA*.—Black; thorax destitute of oblique, lined sutures; abdomen elongate, subfusiform.

Inhabits Pennsylvania.

♂ Body black: mandibles and palpi white: thorax destitute of oblique, lined sutures; transverse suture at the base of the scutel dilated, profound: wings hyaline; radial cellule with the nervure as obvious as the others; second cubital cellule rounded destitute of the exterior [263] nervure; apical nervures obsolete: stigma triangular, fuscous: abdomen oblong, subfusiform, more polished than the thorax; first and second joints densely punctured or minutely lineated; the first joint pedunculiform, arcuated, narrower than the second: venter along the middle pale yellowish: feet honey-yellow: posterior tibiae at tip and posterior tarsi dusky.

Length over one-tenth of an inch.

Resembles *mellipes*, but the thorax has not the oblique, lineated grooves, and the abdomen is more elongated and slender at base. This basal segment, like that of the *mellipes*, has a slight tubercle on each side.

In June, 1822, I obtained eighty-four individuals of this species from the larva of a *Sphynx*.

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5. *M. ZONARIA*.—Black: feet and band on the tergum yellowish.

Inhabits Indiana.

♀ Body black, punctured: antennæ fuscous; beneath piceous. dull; basal joint beneath honey-yellow: mouth honey-yellow: palpi white: wings hyaline: radial cellule with the nervure not strongly marked; second cubital cellule very small, perfect: abdomen not elongated; each side and band on the middle of the tergum honey-yellow: oviduct half the length of the abdomen, black: feet yellowish; posterior pair of tarsi dusky.

Length one-tenth of an inch.

The fasciated tergum is an obvious character.

6. *M. CARPATA*.—Black; stigma large, brown; feet honey-yellow.

Inhabits Indiana.

♀ Body black: antennæ beneath and mouth piceous: palpi white: thorax with the suture before the scutel not much dilated, but having the cross lines; wings hyaline; [264] nervures whitish: stigma large, triangular, light brown; nervures of the radial cellule not visible, or but slightly towards the tip; second cubital cellule destitute of the exterior nervure: tergum oval, somewhat polished; first segment punctured: oviduct nearly or quite as long as the abdomen: feet honey-yellow: wing-scale yellow.

Length over one-tenth of an inch.

The stigma of this insect is larger and the nervures paler than those of any other species I have seen.

7. *M. BISSTIGMATA*.—Stigma elongated, appearing double.

Inhabits Indiana.

♂ Body black, polished: antennæ at base and mouth piceous: thorax with two oblique sutures and one at the base of the scutel: wings hyaline; nervures pale brownish; nervure of the radial cellule as distinct as the others, rectilinear, parallel with the rectilinear part of the costal edge; second cubital cellule destitute of the exterior nervure; stigma much elongated, the length being obviously more than three times the greatest breadth, brown; a stigma-like spot at the origin of the nervures of the

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discoidal cellule on the costal margin much smaller and distinct from the stigma : abdomen elongate, subclavate, being slender at base ; feet pale honey-yellow.

Length about one-tenth of an inch.

The much elongated stigma and the small spot which precedes it, being larger and more separate than usual, readily distinguish this species.

8. *M. CALLIPTERA*.—Wings yellowish at base, bifasciate with blackish.

Inhabits Indiana.

Stethidium black : feet honey-yellow : wings, at base and stigma yellowish ; a blackish band upon the two [265] discoidal cellules ; and another blackish band across the stigma, along the descending nervure to the small second cubital and continued dilating to the anal margin, where it is almost confluent with the other band ; terminal third hyaline ; inferior wings blackish, yellowish on the basal third, this color extending along the costal margin.

This is larger than either of the preceding species.

CHELONUS Jur.

1. *C. PARVUS*.—Black ; base of the antennæ, and anterior thighs yellowish.

Inhabits Indiana.

Body densely punctured ; antennæ, first joint beneath honey-yellow : palpi whitish ; thorax with dilated punctures, particularly on the disk and anteriorly : scutellum and metathorax with dilated punctures ; the latter truncate behind : wings hyaline : nervures blackish, pale at base : stigma large : second cubital cellule small, subtriangular : abdomen without apparent sutures, densely punctured ; the punctures longitudinally confluent into wrinkles, which are more prominent at base ; venter profoundly concave, excavated ; coxæ black ; trochanters whitish ; thighs, anterior pair honey-yellow ; the other pairs blackish ; tibiae whitish, posterior pairs blackish at tip ; tarsi whitish.

Length over one-tenth of an inch.

The neurulation of the wings corresponds with the *dentatus* F., but the abdomen exhibits no more appearance of divisions than 1835.]

that of *sulcatus* Jur., and the venter is very profoundly excavated. The metathoracic spines are very short and obtuse.

2. *C. SERICEUS* nob., (*Sigalphus* Long's Ex. to [266] St. Peter's, ii. p. 321.)—Agreeably to the generic characters given by Jurine, this species as well as the following belongs to this genus, on account of the undivided abdomen; still, however, the *dentatus* F., which has two distinct sutures on the tergum, is also referred by some modern naturalists to this genus.

3. *C. BASILARIS* nob., (*Sigalphus*, *ibid.* p. 322.) much like *parrus* nob., but is larger, the second joint of the antennæ, mandibles and feet, except at tip, are pale yellowish.

DIPLOLEPIS Geoff. Leach.

(Antennæ filiform, joints cylindric. Three cubital cellules.)

1. *D. ARMATUS*.—Black; antennæ and feet ferruginous: scutellum with a conic spine.

Inhabits Indiana.

Body black, polished; antennæ ferruginous: first joint not longer than the third, black; second joint globular, black; third and following joints cylindrical, subequal; terminal joint rather longest; scutellum with a prominent conic, acute spine; wings hyaline: nervures pale brownish: feet honey-yellow; venter on the inferior edge honey-yellow; thorax with two grooves; collar and first segment of the tergum with close-set raised lines.

Length to tip of wings three-twentieths of an inch.

The scutellar spine is very prominent, elevated and obvious, as in *Figites ediogaster* Panz., but the thorax is not so much sculptured as in that species.

2. *D. 5-LINEATUS*.—Black; feet rufous; scutellum with a spine.

Inhabits Indiana.

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Body black, polished; antennæ, first joint rather shorter than the third; scutellum rough with about five raised lines; at tip a broad, compressed, carinate, subacute spine: wings hyaline: nervures brown: pleura and first joint of the tergum with close-set raised lines: feet, excepting the inferior surface of the thighs, dull honey-yellow.

Length three-twentieths of an inch.

Aside from the color of the antennæ and of the inferior surface

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of the thighs, the scutel differs from that of the preceding species in being rugose, or with about five elevated lines, and its terminal spine is much broader at the base and less conic.

3. *D. IMPATIENS*.—Black : feet ferruginous : scutel mutic.

Inhabits Indiana.

Body black, polished, obsoletely tinted with piceous : antennæ piceous-blackish : mandibles ferruginous : scutel with the margin deeply depressed and rugose : the disk elevated, oval, with an acute edge, within which, on the posterior half, is an indentation and a more slight indentation before it, each side of which are two or three punctures : wings hyaline, nervures pale brown : abdomen acute at the tip of the tergum : feet ferruginous or rather piceous.

Length three-twentieths of an inch.

4. *D. PEDATUS*.—Black : feet yellowish : antennæ piceous : third joint long.

Inhabits Indiana.

Body polished, impunctured, black : antennæ yellowish-piceous : first joint not much longer than the second : third joint much longest, equal to the fourth and fifth together, and a little arcuated : remaining joints subequal, [268] oval-cylindric : nasus with a longitudinal indentation each side before : mandibles piceous : thorax without dorsal grooves, but a simple one over the wings : wings with a very slight obscure tint : nervures brown : feet honey-yellow.

Length $\frac{1}{2}$ less than one-twelfth of an inch.

Differs from the two preceding species by the elongated third joint of the antennæ.

5. *D. STIGMATUS*.—Black : feet yellowish : wings with a large stigma.

Inhabits Indiana.

Body polished, black : antennæ piceous : basal joint yellowish : second joint closely united to the first, shortest, almost spherical : second and third joints subequal : wings hyaline, nervures yellowish : stigma large, triangular : abdomen dull rufous : feet pale honey-yellow.

Length about one-twentieth of an inch.

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FIGITES Latr.

(Antennæ moniliform, thicker towards their extremities. Second cubital cellule wanting.)

1. *F. IMPATIENS*.—Black : mandibles and feet piceous.

Inhabits Indiana.

♀ Body polished black : antennæ piceous-black, two-thirds the length of the body, with scattered hairs : beyond the sixth joint moniliform : terminal joint ovate conic : mandibles piceous : area of the stemmata a little elevated : behind which, on the occiput, are oblique impressed lines : scutel with the margin depressed and rugose, the disk oval, the edge obscurely piceous, with an indentation behind, within the edge : wings hyaline : nervures yellowish : feet piceous.

Length three-twentieths of an inch.

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I am by no means satisfied with the only essential characters I can find of the genera *Diptolepis* and *Figites*. The present species closely resembles the *Diptolepis impatiens* nob. The scutel has an indentation as in *scutellaris* Latr., and some other species.

2. *F. MELLIPES*.—Black ; feet honey-yellow ; wings ciliate.

Inhabits Indiana.

♀ Body black, polished : mouth piceous : antennæ a little hairy, piceous : wings hairy and ciliate ; more particularly ciliate at tip ; nervures piceous : feet honey-yellow, somewhat paler at base and including the coxæ.

Length one-twenty-fifth of an inch.

LEUCOSPIS Fabr.

L. FRATERNA ♀.—Black, varied with yellow ; oviduct longer than the abdomen.

Inhabits Indiana.

Body black, densely punctured : head with an obscure silvery reflection before and on the front in the cavity of the antennæ bright green : vertex varied with obscure violet and greenish : antennæ, basal joint yellow anteriorly : collar margined each side and behind with yellow and with a yellow transverse abbreviated line on the anterior middle : thorax with an abbreviated line over the wings and a transverse one on the scutel yellow : wings

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somewhat fuliginous: pleura with an oblique, yellow line over the posterior feet: tergum, first segment with a dull ferruginous-yellow band at base and a subterminal yellow one; on the middle of the tergum on each side a transverse yellow spot; a yellow band on the posterior submargin of the penultimate segment; and a double [270] yellow spot at tip of the ultimate segment: oviduct longer than the abdomen, reaching almost to the scutel: tarsi and anterior tibiæ ferruginous, the latter dusky on the middle: intermediate tibiæ and knees yellow, tinted with ferruginous behind: posterior thighs dentated beneath, yellow at base and tip; tibiæ yellow before, somewhat ferruginous behind.

Length seven-twentieths of an inch.

♂ Tergum on each side anterior to the middle, a slightly carinated line; lateral yellow spot on the middle none; a yellow band on the middle or a little posterior to the middle, and towards the tip another yellow band; on the posterior declivity is an abbreviated longitudinal yellow line or spot; sides with a yellow spot or line interrupted from the extremities of the two posterior bands; of the two spots the anterior one is sometimes wanting, and in some specimens is a lateral yellow joint near the tip.

Length three-tenths of an inch.

Closely resembles *affinis* nob., in color and markings, but besides other differences the present species is larger and more robust, and the oviduct is longer than the abdomen. A female specimen was sent me by Dr. Harris, and I obtained several males and one female in this State. Dr. Harris's specimen varies in having only a rudiment of the yellow spot of the middle of the tergum.

I have obtained them chiefly on the blossoms of the parsnip.

CHALCIS Fabr. Latr.

1. *C. AMÆNA*.—Yellow, variegated with black.

Inhabits Indiana.

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Body with large, close-set punctures: yellow, slightly tinged with green; occiput and antennæ, excepting the basal joint beneath, black: thorax quadrilinear with black, the intermediate lines confluent at the middle, and all united by a transverse line

1835.]

behind and by a slender transverse line at the suture of the first segment, on which the lines do not extend: scutel with a longitudinal black line: metathorax, excepting at base, black: abdomen, petiole black, about one-third as long as the abdomen: tergum moderately arcuated; each segment having a black band: pleura black, about four yellow spots: posterior pair of feet with their coxæ at tip, maculated band, inferior edge and tip of the dilated thighs, tip and base of the tibiæ, black; the thighs are about the size of the abdomen, with six or eight large prominent black spines, the superior one divided into three or four.

Length less than one-fifth of an inch.

A very handsome species; I obtained it from the pupa of a *Thecla*.

2. *C. DEBILIS*.—Dull honey-yellow; anterior pair of feet whitish.

Inhabits Indiana.

Front yellowish towards the mouth; a black line from the antennæ to the vertex: antennæ dusky, paler beneath: thorax punctured, with three black vittæ; scutel with a black line: beneath the petiole are two whitish spines: petiole as long as the posterior coxæ, blackish, whitish at the tips: abdomen polished, the incisures blackish; thighs nearly equal to the abdomen; tibiæ whitish, blackish in the middle; tarsi white.

Length three-twentieths of an inch.

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EURYTOMA Illig. Latr.

1. *E. ORBICULATA*.—Blackish; feet, excepting the middle of the thighs, yellowish.

Inhabits Indiana.

Body brassy-black, reticulate with punctures: antennæ, first joint honey-yellow: scutel obtusely rounded at tip: suture at its base not dilated: wings hyaline; nervures brown, branch of the radial nervure not longer than the part that extends beyond it on the edge: abdomen in profile almost orbicular, glabrous, polished; petiole punctured, longer than the posterior coxæ and trochanters: feet honey-yellow: thighs, excepting at their origin and extremity, black.

Length less than one-tenth of an inch.

The joint of the antennæ are unequally gibbous.

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2. *E. STUDIOSA*.—Black; terminal joint of the antennæ as long as the two preceding ones together.

Inhabits Indiana.

♀ Body reticulate with crowded punctures: antennæ moniliform, of eight joints, geniculate; second joint shortest; third joint hardly longer than the fourth, and gradually a little shorter to the penultimate; ultimate joint about as long as the two preceding ones together, conic-ovate, with a very slight appearance of being three-jointed: thorax, anterior segment in breadth at least equal to twice the length; suture at the scutel not dilated: scutel obtusely rounded behind: wings hyaline; nervure much arcuated from the edge, its confluence with the edge about as long as the branch, which is subclavate: abdomen polished, impunctured; above oval; laterally orbicular; peduncle shorter than the posterior coxæ and trochanters: knees and tips of the tibiæ honey-yellow: [273] tarsi, particularly the two posterior pairs, whitish.

Length less than one-tenth of an inch.

EULOPHUS Geoff. Latr.

1. *E. DICLADUS*.—Blackish metallic; tibiæ and tarsi white.

Inhabits Indiana.

Body brassy blackish, more or less tinged with cupreous, punctured: antennæ larger towards the tip; terminal joint larger than the preceding one, conic-compressed; two long, slender branches, originating near the base, and nearly as long as the antennæ; tergum tinged each side with green: feet blackish: tibiæ and tarsi white.

Length nearly one-twentieth of an inch.

The terminal joint of the antennæ in the female is considerably larger than the others.

2. *E. BASALIS*.—Greenish; feet, tip and base of the antennæ white.

Inhabits Indiana.

♀ Body granulated, brassy-green, with a slight violaceous reflection: antennæ yellow-white, third, fourth and fifth joints dusky: abdomen blackish-violaceous, basal disk whitish, and a small whitish spot at tip: feet white, including the anterior

coxæ: coxæ with a small, acute tubercle before: tarsi, terminal joint dusky.

Length about one-fifteenth of an inch.

I observed a number of the pupæ of this insect, congregated together on the under side of a leaf of the buttonwood (*Platanus occidentalis* L.) They were of a blackish color, and adhered to the leaf in a vertical [274] posture, by the extremity of the abdomen. Came out last June.

This is much like *E. damicornis* Kirby, which, however, has a shade in the middle of the wings; antennæ not shaded in the middle, and the posterior thighs of the female are dusky in the middle. I have five females, but not one male.

The last joint of the antennæ is evidently divided into three segments.

3. *E. hircinus*.—Black, with sparse, long hairs; feet and base of the tergum yellowish.

Inhabits Indiana.

Body black: antennæ yellowish; terminal joints dusky: mouth yellowish: thorax, head and wings at base, with long sparse hairs: wing-scale honey-yellow: tergum on the basal disk yellowish: feet, including the coxæ, pale yellow: venter on the disk yellowish.

Length over one-twentieth of an inch.

Quite distinct from the preceding by the long hairs of the head and thorax.

PERILAMPUS Latr.

P. PLATIGASTER.—Blackish; face impunctured.

Inhabits Indiana.

Body brassy-blackish, punctured: head polished, impunctured before: occiput somewhat lineated transversely; before the eyes a little punctured: thorax with a glabrous, polished line each side: scutell short, obtuse, rounded, slightly emarginate at tip: wings hyaline; nervures brown; tergum quadrate, angulated each side, simply arcuated above, shining blackish: feet blackish, with a tinge of green: tarsi yellowish. [275]

Length about three-twentieths of an inch.

Differs from *P. hyalinus* nob. by color; and in that species the [Vol. I.

face is very obviously punctured, the scutel is larger and more acutely emarginated, and the abdomen is elevated above, into an acute, transverse ridge.

TORYMUS Dalm. (MISOCAMPUS Klug.)

1. T. OCREATUS.—Green, tinged with blue; base of the antennæ, tibiæ and tarsi whitish.

Inhabits Indiana.

Body bright green, more or less tinged on the pleura, abdomen and thighs with blue or purplish; reticulately punctured: antennæ black; first joint before dull whitish: mandibles and palpi piceous: scutel, on the posterior half with very small punctures: wings hyaline; nervure brown: abdomen polished, impunctured: terminal joint ♀ brassy: oviduct as long as the body, fuscous: tibiæ and tarsi whitish.

Length one-tenth of an inch.

Resembles *bedeguaris* F., but is smaller, the abdomen and thighs differently colored, and the minute puncturation of the posterior half of the scutel strongly contrasts with the larger discoidal punctures of the basal half. It inhabits the receptacle of a *Liatris*.

The male has generally more of the purple tinge.

2. T. PAVIDUS.—Cupreous green; no large punctures; tibiæ and tarsi yellowish.

Inhabits Indiana.

Body coppery-greenish, with the appearance of minute granules or scales; antennæ black: hypostoma with the carinate line very distinct: mandibles piceous: wings hyaline; nervure pale brownish: abdomen bluish-green: [276] feet honey-yellow: thighs bluish-green; posterior pair of tarsi whitish.

Length ♂ nearly one-tenth of an inch.

The surface has no large and obvious punctures like those which distinguish the preceding.

SPARASION Latr.

S. FAMELICUS.—Slender; abdomen longitudinally lineated. Inhabits Indiana.

Body much elongated, very slender; with small punctures; 1835.]

black; antennæ, six basal joints dull yellowish, remaining joints close set: second and third joints equal: mandibles piceous: thorax with the anterior segment arcuated each side to the wings; two distant, dorsal, longitudinal impressed lines: wings hyaline; nervure not distant from the edge, branch, divaricating from the edge, not dilated at its tip: metathorax with longitudinal, elevated lines: abdomen elongated, with numerous, longitudinal, parallel, elevated lines, both on the tergum and venter: feet honey-yellow.

Length over three-twentieths of an inch.

CERAPHRON Jur. Latr.

1. *C. ARMATUS*.—Wings fuliginous in the middle; tergum striate at base.

Inhabits Indiana.

Body black, with rather distant punctures: thorax with three longitudinal lines before, approaching behind: wings fuliginous in the middle; nervure, carpal spot and branch robust, fuscous; the carpal spot or stigma rather [277] large and truncated: scutel with two small spines at tip: metathorax with a small spine or tubercle each side: tergum depressed, with numerous close set engraved lines extending to the middle of the length: feet piceous; thighs blackish.

Length more than one-tenth of an inch.

A very distinct species.

2. *C. STIGMATUS*.—Lateral margin of the tergum extending beyond the abdomen.

Inhabits Indiana.

Body black, minutely punctured: antennæ, first joint equal to the four following joints taken together: thorax, anterior segment with the three impressed lines distinct: wings hyaline; stigma large, semi-orbicular, brown; nervure of the incomplete radial cellule robust, brown, hardly longer than the stigma; tergum polished, slightly lineated at base; the segments extending each side beyond those of the venter: anterior and intermediate tibiæ and tarsi piceous.

Length over one-twentieth of an inch.

These two species belong to the second division of Jurine's *Ceraphron*.

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PROCTOTRUPES Latr.

1. *P. OBSOLETUS*.—Black ; feet and antennæ honey-yellow.

Inhabits Indiana.

Body polished, black : antennæ honey-yellow, simple, palpi white : thorax with a yellowish wing-scale : wings hyaline ; nervure from the radial cellule continued to the middle of the wing ; discoidal and anal nervures hardly distinct : feet honey-yellow : oviduct about as [378] long as the first joint of the posterior tarsi, gradually attenuating from the abdomen to the tip, and continuing the curve of the tergum downward.

Length to the tip of the oviduct nearly one-fifth of an inch.

2. *P. ABRUPTUS*.—Black ; feet and first joints of the antennæ honey-yellow.

Inhabits Indiana.

Body polished, black : antennæ rather short, with close set, short, obvious hairs ; two or three basal joints very obscurely honey-yellow or piceous ; joints beyond the middle not twice the length of their breadth : mouth obscurely piceous : wings hyaline ; nervure of the radial cellule not extended toward the middle of the wing ; discoidal and anal nervures not obvious ; wing-scale dull yellowish : feet honey-yellow : oviduct curved rapidly downward, almost deflected, not gradually attenuated, but somewhat cylindric at base, and hardly longer than the basal joint of the posterior tarsi.

Length one-tenth of an inch.

3. *P. PALLIDUS* nob. Contrib. Mael. Lyc. vol. i. p. 80.

This species is remarkable in having but a very short, bifid process extending from the tip of the abdomen. The sexes are not well understood. Jurine says that the antennæ have the same number of joints, and that the pointed valves which terminate the abdomen are nearly alike in both sexes. But the present insect leads me to suppose that the male has not been hitherto known. At the extremity of its abdomen are two very short, parallel filiform processes, which are probably characteristic of the male sex in this genus. It seems, therefore, possible that the *pallidus* may prove to be of the same species as [279] 1835.]

P. caudatus nob., notwithstanding their great apparent difference. But this cannot be determined without more specimens, and a better acquaintance with them both.

Since the above was written, I have obtained many specimens of this species, all corresponding in apparent sexual character, excepting that in some the second joint of the antennæ is so far immersed in the first, as to be hardly visible; still as it is not, in any, much exerted, this character is probably dependent on the greater or less degree of contraction in drying.

CINETUS Jur.

C. MELLIPES.—Black; feet honey-yellow.

Inhabits Indiana.

Body polished, black, hairy: antennæ fuscous; basal joint honey-yellow; vertex tinged with piceous: mouth obscure honey-yellow: thorax with two impressed lines: wings immaculate, ciliate; nervures of the radial cellule extended a little towards the base and centre of the wing; the two anal nervures very distinct; stigma not obvious: abdomen, peduncle with longitudinal, impressed lines; second segment very large, composing the chief part of the abdomen: feet honey-yellow.

Length one-tenth of an inch.

BETHYLUS Latr.

1. *B. CELLULARIS*.—Black; antennæ, tarsi and anterior tibiæ piceous.

Inhabits Indiana.

Body black: head with a raised line passing between the antennæ before: antennæ piceous: wings with a very [280] slight tinge of fuliginous; nervures yellowish; stigma double, fuscous; a small, additional, triangular cellule at the tip of the brachial cellules; abdomen polished: feet black; tarsi and anterior pair of tibiæ and tarsi piceous.

Length about one-tenth of an inch.

This species is remarkable by the supernumerary cellule.

2. *B. MUSCULUS*.—Black; antennæ and feet yellowish; abdomen depressed.

Inhabits Indiana.

Body somewhat polished, impunctured, black : antennæ dusky, honey-yellow towards the base : mandibles honey-yellow ; thorax with the anterior segment not much elongated ; dorsal impressed lines very obvious : wings hyaline ; radial nervure extended, equally distinctly near to the tip of the wing ; discoidal cellule none : metathorax minutely and densely punctured or granulated above, and minutely lineated each side : abdomen depressed, polished, piceous black, distinctly petiolated : feet honey-yellow : thighs a little dusky in the middle.

Length over one-twentieth of an inch.

This is the smallest species I have met with.

3. *B. PEDATUS*.—Black ; antennæ and feet honey-yellow.

Inhabits Indiana.

Body black, with scattered hairs : antennæ, particularly at base, obscurely honey-yellow ; first joint long : thorax minutely punctured : metathorax punctured and lineated : tergum polished : feet dull honey-yellow.

Length over one-tenth of an inch.

This species and the following are remarkable for the brevity of the inflected tip of the radial nervure, which is not at all arcuated, but points obliquely inward. [281]

4. *B. CENTRATUS*.—Black ; tarsi and tip of the tibiæ obscure piceous.

Inhabits Indiana.

Body black, polished, with scattered hairs : antennæ with an obsolete piceous tint, excepting the basal joint : metathorax with discoidal punctures and lineations : wings hyaline ; two brachial cellules ; a simple, short, oblique rectilinear inflection of the tip of the radial nervure pointing towards the centre of the wing : nervures pale : tergum polished : tibiæ and tarsi obscure piceous ; the latter blackish at tip.

Length less than three-twentieths of an inch.

This species is considerably larger than the preceding and differs in the color of the antennæ and of the feet.

COPTERA nob.

Artificial character.—Wings without nervures ; superior wings folded and with a fissure at tip ; abdomen of two segments.
1835.]

Natural character.—Body moderately slender: head longitudinally oblong, truncate or a little excavated before, over the insertion of the antennæ; eyes lateral, rounded, entire: stemmata three: antennæ submoniliform, gradually enlarging a little towards the tip; basal joint longest and dilated: wings without obvious nervures; superior wings large, folded longitudinally in two, and at the tip of the fold with a profound fissure; inferior wings rather slender: abdomen composed of but two segments, of which the basal one is somewhat petioliform: feet moderate. [282]

Observations.—This new genus differs from all others with which I am acquainted, that have nerveless wings, by having the superior wings doubled, by an equal fold, and at their tips a deep and obvious fissure. I have, as yet, seen only the male.

C. POLITA.—Black; feet honey-yellow.

Inhabits Indiana.

Body polished, black: head anteriorly rugose and biangulated: antennæ at base, excepting the first joint, piceous: thorax with two impressed lines: wings with short hairs and ciliate: abdomen oblong-oval, basal segment with elevated lines.

Length about one-twelfth of an inch.

Taken on the window, July 20.

PSILUS Jur.

1. *P. TERMINATUS.*—Black; feet and base of the antennæ honey-yellow.

Inhabits Indiana.

Body black, polished, with a few, rather long, scattered hairs: antennæ thirteen-jointed, elongated, geniculate between the second and third joints, honey-yellow; first joint in a frontal groove; second joint elongated, subfusiform, third joint cyathiform; remaining joints moniliform, equal to the eleventh joint, which is abruptly dilated and with the twelfth equal, subquadrate, black; thirteenth joint subequal to the preceding, globose-ovate, black: wings with short ciliæ, and with short hairs; [283] nervures none; stigma triangular, black; abdomen dull honey-yellow at base; first segment half as long as the thorax: feet honey-yellow.

Length over one-twentieth of an inch.

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Although the wings entitle this species to a place in Jurine's *Psilus*, yet the antennæ are entirely different from those of the type *P. elegans*, resembling considerably those of his *P. antennatus*.

2. *P. ABDOMINALIS*.—Antennæ clavate, as long as the body ; black, abdomen whitish.

Inhabits Indiana.

Body black : antennæ broken at the second joint ; first joint one-fourth the whole length, whitish : second joint obconic : terminal joint ovate-fusiform, longer than the three preceding joints together ; wings very deeply ciliated : abdomen whitish, particularly at base : tarsi whitish.

Length about one-fourth of an inch.

3. *P. APICALIS*.—Antennæ at the tip of the head, which is a little prominent.

Inhabits Indiana.

Body black, polished ; antennæ as long as the body, fuscous, with subquadrately moniliform joints ; basal long joint honey-yellow ; terminal joint not much longer than the preceding one ; inserted at the tip of the head ; beneath the antennæ is a rather broad prominence : costal nervure but little less than half the length of the wing, triangular and black at its tip ; feet honey-yellow : petiole distinct.

Length one twenty-fifth of an inch.

It is probable that the present insect is related to the *P. cornutus* of Panzer, but I have not the means of comparing. [284]

4. *P. COLON*.—Wings with a dusky dot before the middle.

Inhabits Indiana.

Body black, polished ; antennæ nearly as long as the body ; terminal joint as long as the first and equal to the four preceding joints together : wings hyaline ; an oval, dusky spot a little beyond the tip of the costal nervure and extending nearly across the wing : costal nervure with its terminal half more dilated than the basal portion and blackish ; tarsi and anterior pair of tibiæ honey-yellow.

Length one twenty-fifth of an inch.

Readily distinguished by the dusky wing-spot.

1835.]

ANTEON Jur.

A. TIBIALIS.—Black; tibiæ and tarsi dull yellowish.

Inhabits Indiana.

Body polished, black; metathorax punctured and with longitudinal slightly elevated lines; tergum towards the tip with a few, rather long black hairs; tibiæ and tarsi dull yellowish-white.

Length about one-tenth of an inch.

HEDYCHRUM Latr.

1. H. OBSOLETUM.—♀ Thorax on the disk very slightly punctured; abdomen entire at tip.

Inhabits Indiana.

Body green, varied with purplish; thorax on the disk tinged with purple, and with sparse, slightly impressed punctures; wings fuliginous; metathorax and pleura with discoidal punctures, and a confluent blackish, double, indented [285] spot behind; tergum with a purple reflection, less obvious on the posterior segment; punctures slightly impressed, more obvious each side and on the terminal segment; terminal segment about equal to the preceding, perfectly entire at tip: venter bronze: tarsi brown.

Length less than one-fourth of an inch.

Differs from *ventrale* nob., which has the terminal segment slightly longer than the preceding one and very obtusely and slightly emarginate at tip, and the thoracic punctures are not sparse on the disk: the *sinuosum* nob. has a deep and acute emargination at tip of the terminal segment of the tergum.

2. H. SPECULUM.—♂ Green; tergum and disk of the thorax impunctured.

Inhabits Indiana.

Body green, varied with purplish: antennæ, excepting the first and second joints, blackish: head with discoidal punctures, vertex and posterior margin impunctured: thorax impunctured, polished, with an impressed, abbreviated line each side of the middle: metathorax with discoidal punctures: wings fuliginous: tergum impunctured, polished; terminal segment hardly half as

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long as the preceding one, obsoletely punctured each side, at tip obtusely emarginate: tarsi pale honey-yellow: venter brassy.

Length less than three-twentieths of an inch.

The smallest species I have yet met with in this country.

PYRIA Lepel. & Serv.

P. TRIDENS L. & P.—Encyc. Meth. *Chrysis carinata* nob.
Contrib. Macl. Lyc. p. 82. [286]

FORMICA L.

A. First cubital cellule without recurrent nervure.

1. F. MELLEA.—Honey-yellow; scale truncate.

Inhabits Louisiana.

♂ Body entirely honey-yellow; eyes rather prominent, black, short oval: wings very slightly tinged with yellow; nervures yellow: scale robust, broad, truncate, and having a slight tubercle each side before, less than half the height of the abdomen, and not higher than the length of its base.

Length nine-twentieths of an inch.

Sent to me by Mr. Barabino. The small discoidal cellule, so distinct in the wing of *F. rufa* F., does not exist in this species.

2. F. LAUTA.—♀ Body piceous, more or less varied with black; the piceous color prevails chiefly on the stethidium and mouth: mandibles with larger and regular punctures; between the antennæ a slender, impressed line: thorax with generally a black line each side: scutel darker than the thorax: wings with yellowish nervures: no recurrent nervure: inferior nervure of the cubital cellule arising from the middle of the tip of the brachial cellule; the terminal line of this latter cellule is nearly rectilinear and transverse; anal nervure rectilinear at base, angularly undulated and slightly communicating with the tip of the axillary nervure: abdomen black; first segment often piceous: feet honey-yellow: tibiæ and tarsi darker.

Length over three-tenths of an inch.

♂ Entirely black, excepting the wings, which are like those of the female: the thorax has a distinct, longitudinal impressed line before, which sometimes exists in the female, but less distinct. [287]

1835.]

Length over one-fifth of an inch.

Inhabits Indiana. Common.

3. *F. IMPARIS*.—♀ Body light honey-yellow, impunctured: head small: eyes oval, black: mandibles, teeth black: wings very slightly tinged with fuliginous; no recurrent nervure; terminal line of the brachial cellule angulated, the anal half being oblique; anal nervure robust to its tip, arcuated from its origin, scarcely undulated, not communicating with the axillary nervure: scale emarginate at tip, often deeply and acutely: tergum, disks of the incisures a little deeper colored.

Length nearly three-tenths of an inch.

♂ Very small in comparison with the female; black; mouth piceous: feet dull honey-yellow; thighs, excepting the knees, black.

Length less than three-twentieths of an inch.

This species is common in Indiana. The great disparity in color and magnitude between the male and female, would deceive, as to their specific identity.

They appeared in great numbers on the 2d of April; the males swarmed around small bushes, alighting on the branches and leaves. The females were but few.

B. First cubital cellule with a recurrent nervure.

4. *F. SESSILIS*.—Peduncle concealed by the abdomen.

Inhabits Indiana

Body blackish: mouth dull honey-yellow: antennæ rather long: thorax with the three segments very distinctly marked: peduncle composed of a simple, oblong body; destitute of a scale, unless it be depressed and united to the surface of the peduncle, concealed by the first segment of the abdomen: abdomen projecting over the peduncle, and having a deep and well defined groove beneath the first segment for its reception: feet, excepting [288] at base, dull honey-yellow: wings with the discoidal cellule, small, quadrate; first cubital cellule not broader than the radial, and bounded by a right line; nervure of the second cubital cellule obsolete.

Length ♀ three-twentieths of an inch: nearer about one-tenth of an inch.

The projection of the superior part of the basal segment of

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the neuter abdomen is more remarkable than that of the female. It probably belongs to the genus *Polyergus*.

A variety is much paler, even honey-yellow.

5. *F. TRIANGULARIS*.—Discoidal cellule subtriangular; blackish-piceous.

Inhabits Indiana.

Body blackish-piceous or obscure reddish-brown: hypostoma convex and somewhat carinate: mandibles piceous: wings whitish; nervures pale; discoidal cellule subtriangular, the superior angle being very obtuse; first and second cubital cellules not separated by a petiole; anal nervure abruptly angulated on the anal submargin: scale rather thin, elevated: tarsi honey-yellow.

♂ Body darker.

Length ♀ over one-tenth of an inch; ♂ about the same.

Var. *α*. Recurrent nervure none.

Var. *β*. Recurrent nervure obsolete or incomplete.

Resembles *sessilis* nob., but the scale is obvious; the discoidal cell is more triangular and the nervure of the second cubital is obvious.

6. *F. DISLOCATA*.—Yellowish; anal nervure almost dislocated at the anal emargination.

Inhabits Indiana.

Head black: hypostoma distinctly carinated: front [289] with an acute, longitudinal, elevated line over the insertion of each antennæ and a slightly impressed line in the middle: antennæ and mandibles piceous: thorax honey-yellow, dusky before: wings tinged with fuliginous; nervures dusky and very distinct; recurrent nervure forming a quadrate cellule less than half the size of the first cubital; anal nervure abruptly angulated near the anal emargination of the edge, and almost dislocated in that part, the terminal portion being arcuated at each extremity: scale thick, prominent, obtuse, entire: abdomen blackish, with prostrate hairs, and sparse elevated ones and regular ciliæ on the edges of the segments; first segment honey-yellowish at base, without any indentation opposite the scale: feet honey-yellow.

♂ Trunk and scale entirely pale honey-yellowish: scapus of 1835.]

the antennæ, hypostoma and mouth pale yellowish: abdomen somewhat piceous.

Length three-tenths. ♂ less than two-fifths of an inch.

Not uncommon in the forest, running rapidly upon the branches and leaves of bushes.

7. *F. SUBSERICEA*.—Black, minutely sericeous; abdomen impunctured.

Inhabits Indiana.

Body impunctured, black, very minutely sericeous: thorax with an impressed line before: wings dusky; discoidal cellule about half as large as the first cubital, a little narrower before: scale obtuse, or widely rounded at tip, somewhat truncate.

Length ♂ less than two-fifths, ♀ over two-fifths of an inch.

My specimen of the female has the legs entirely black: and of two males one has the legs honey-yellow, with the exception only of the base of the coxæ; and the other [290] also with honey-yellow legs has the coxæ, trochanters and even the base of the thighs black. It is one of the large species called "wood ants."

ATTA.

A. FERVENS Drury, vol. iii. p. 58, pl. 42, f. 3.—I obtained a female of this species in Mexico, and on comparison with an individual of the *cephalotes* sent me by Dr. Klug, I find it to be a closely allied species. The color of the wings and their venation are the same; but the body is more hairy or downy, and its brown color is not so deep. (the color is much too black in my copy of Drury, agreeing better with the *cephalotes*, than with Drury's description.) The head is not so large, so deeply indented above, nor so acute at the posterior angles. The impressed, longitudinal line on the anterior part of the thorax, so distinct in *cephalotes* is not, or is scarcely visible in *fervens*. Judging from these two specimens, I am convinced that the *fervens* ought to be admitted into the modern books as a distinct species.

MYRMICA Latr. Klug.

1. *M. LINEOLATA*.—♀ Black, more or less varied with piceous: antennæ subclavate; at tip clothed with dense, short, whitish hairs: front with a longitudinal impressed line, termi-

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nating before in a small triangular impression between the antennæ; the whole head, excepting the vertex, occiput and antennæ, striate with close-set very small lines, which are rather longer on the mandibles: wings hyaline; nervures yellowish-brown; small cubital cellule none: anterior segment of the petiole deeply striate [291] longitudinally each side, decidedly longer than the second which is subemarginate above: abdomen oval, truncate, submarginate at base: pleura, striate like the head behind.

Length over three-tenths of an inch.

♂ Much more slender; transverse incisure between the wings more obvious; segments of the petiole not so deeply divided.

Length over three-twentieths of an inch.

Neuter. Piceous, varying to black; abdomen cordate, almost always black.

Length under three-twentieths of an inch.

This species is very common in various parts of the United States, even in houses, and may be observed, by every one, going in procession. The radial cellule is slender and elongated, the including nervures being nearly parallel; the inner nervures does not quite attain the edge. The first cubital cellule is hardly larger than the discoidal cellule, the recurrent nervure of which enters the first cubital at the middle. Second cubital extending to the tip of the wing.

2. *M. CORRUGATA*.—Honey-yellow; wings with three complete cubital cellules.

Inhabits Indiana.

♂ Body dark honey-yellow, almost piceous: antennæ whitish; first joint not longer than the second and third together; second joint rounded, thickest: metathorax with two obtuse tubercles instead of spines: wings hyaline; nervures and stigma pale yellowish; second cubital cellule complete, nearly as long as the first cubital and petiolated from the apical angle of the discoidal cellule, which is oblong subquadrate; the descending nervure from the stigma enters the second cubital: abdomen, first [292] joint somewhat gibbous at tip; second segment rounded: feet whitish.

Length over three-twentieths of an inch.

♀ Somewhat darker than the male; metathoracic tubercles
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spiniform; first abdominal segment almost emarginate at the superior tip; second segment short and wide; first joint of the antennæ long; head anteriorly with numerous, approximate, impressed lines.

Length one-fifth of an inch.

Appeared on the wing, July 19th.

3. *M. OPPOSITA*.

♂ Body black, minutely and densely granulated: antennæ dusky; pale yellowish towards the tip; first joint slightly longer than the second and third together; second joint obtusely obconic: hypostoma convex: mandibles piceous: thorax with a glabrous line extending to the middle: wings dusky: second cubital cellule turbinate, petiolated from the angle of the discoidal cellule, its longitudinal nervures equally curved; nervure separating the second and third cellules in a direct line with the nervure from the stigma; discoidal cellule quadrate; metathorax, spines short, acute: abdomen polished, not obviously granulated; second node with an impressed line above, dividing the surface into three slight lobes: venter and feet tinged with piceous.

Length over three-twentieths of an inch.

Neuter. Dull honey-yellow: head minutely lineated: antennæ, first joint long: stethidium rather largely granulated; spines prominent, acute, reaching nearly to the tip of the first node: abdomen glabrous, polished; second node without impressed line.

Length less than one-fifth of an inch.

4. *M. INFLECTA*.—Black: wings dusky; discoidal cellule oblong. [293]

Inhabits Indiana.

♂ Body a little hairy, lineated with impressed lines, which are more distinct on the metathorax, black, slightly tinged with piceous: antennæ with a piceous tinge; first joint not longer than the three following ones together: wings dusky; discoidal nearly as long again as broad; second cubital sessile, the separating nervure from the first cubital rather abruptly inflected towards the base, and nearer the base almost obsolete, the other including nervure rectilinear; separating nervures between the first cubital

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and radial, and the second and third cubitals, forming a broken or slightly dislocated line, the former almost entering the third cubital: metathorax without lineations on the posterior declivity, the spines distinct: abdomen polished, without lines; petiolar segments or nodes very distinct, subequal, the posterior one rather larger and spherical: feet more obviously tinged with piceous at base.

Length less than one-fifth of an inch.

The connexion between the radial and second cubital is very slightly petiolated, and the separating nervure between the first and second cubitals, is almost or quite angulated, and is less distinct towards its junction with the discoidal cellule.

5. *M. DIMIDIATA*.—Body pale yellowish: thorax somewhat tinged with piceous: wings with a very slight tinge of yellowish; discoidal cellule in length nearly twice its breadth; feet filiform; separating nervure between the first and second cubital cellules abruptly ending at the middle of the usual length, being entirely wanting on the basal half.

Length over one-fifth of an inch.

6. *M. MOLESTA*.—♀ Body pale honey-yellow, immaculate: antennæ with the two ultimate joints much larger [294] than the others; the terminal one as large again as the penultimate one: wings whitish; smaller cubital cellule none; discoidal cellule very small, less than half as large as the first cubital; first cubital receiving the recurrent nervure near its base; nervure of the radial cellule terminating abruptly before the tip: the two other apical nervures feebly traced towards the tip and not reaching the tip; metathorax unarmed.

Length less than three-twentieths of an inch.

This is called the "little yellow ant," and is frequently found in houses in great numbers. They sometimes eat vegetable food, and some of my garden seeds have severely suffered from their attacks. They also devour grease, olive oil, &c. Their sting is like the puncture of a very fine needle. I placed a piece of meat on a window board frequented by these little depredators; it was soon absolutely covered by them, and thus enabled me to destroy thousands, every few hours that I returned to examine
1835.]

the bait, for several days, during which time their apparent numbers scarcely diminished.

7. *M. MINUTA*.—Pale yellowish; destitute of spines on the metathorax.

Inhabits Indiana.

Body whitish-yellow: head rather large: antennæ, terminal joint three times as large as the preceding one: eyes small, black, and placed low down: peduncle rather long: abdomen oval: very pale honey-yellow.

Length (neuter) less than three-fifths of an inch.

[Is it not the same as the *molesta*?—ED.]

This may possibly prove to be an *Atta*. I obtained only a single specimen, which was found entangled in the nails and tarsi of a specimen of *Gorytes phaleratus* nob., in my cabinet. It does not appear to have a spine on any part, but there are a few scattered hairs.

[295]

MUTILLA Linn.

* *Eyes emarginate*.

1. *M. CONTRACTA*.—Black; above ferruginous; wings blackish.

Inhabits Arkansaw and Missouri.

Body entirely black beneath, inclusive of the feet: above ferruginous-yellowish: head black below the line of the eyes: metathorax, petiole, anterior and lateral declivities of the abdomen black. ♂ Anterior half of the first segment of the tergum black: wings blackish-fuliginous, somewhat paler in the middle; second cubital cellule wide beneath and contracted but not angulated at the radial cellule; third cubital cellule so much contracted at base that its extreme nervure is opposite to and joins the recurrent nervure.

Length about half an inch.

The neuration of the wings somewhat resembles that of the *maura* F. and is nearly the same as that of the *erythrina* Klug, of Mexico. I obtained several specimens from Missouri, and Mr. Nuttall gave me one from Arkansaw.

2. *M. HEXAGONA*.—♂ Black; abdomen honey-yellow.

Inhabits Indiana and Missouri.

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Body black, much punctured, and with a slight reflection of silvery hairs, particularly on the head, on the anterior segment of the thorax and on the metathorax: thorax with four slight, impressed lines, and numerous confluent punctures: metathorax reticulate with punctures, and with a slight groove from the base nearly to the middle: wings dark purplish-fuliginous; radial cellule rounded at tip, not truncate; third cubital cellule [296] rounded hexangular, with abbreviated nervures from the two outer angles; a white line passes through the cubital cellules, and a white spot is in the outer discoidal cellule: abdomen rufous or bright honey-yellow; first or petiole segment black: feet silvery hairy.

Length from half an inch to nearly seven-tenths.

The neuration of the wings is much like that of the *M. italica* F., even to the white line and small spot; but the third cubital cellule is still more regularly hexagonal and the radial cellule is not truncate at tip like those of the *italica* and *melanura* Klug, and many other species.

3. *M. VIGILANS*.—♂ Black; large abdominal segment, excepting its anterior and posterior margins, rufous.

Inhabits Pennsylvania.

Body black; with large, dense punctures: thorax with three, somewhat elevated lines and a slight appearance of another each side: wing-scale convex, lineate on the margin; the outer and hinder margins lineated with minute, elevated, parallel lines: wings purplish-black; radial cellule truncate at tip; first cubital cellule bisected by a white line; second cubital gradually and regularly narrowed to the base, with an abbreviated white line at tip; third cubital hexagonal, not contracted, the two exterior angles with abbreviated nervures; exterior discoidal cellule with a white dot: metathorax discoidally punctured; dorsal groove extending beyond the middle; large basal segment of the abdomen with large remote punctures, smaller and closer on the sides, bright rufous, its basal and terminal margins black.

Length over three-fifths of an inch.

Resembles *M. italica* F., but differs in greater depth of color in the lineations of the wing-scale, greater length [297] of the 1835.]

metathoracic groove and the larger and distant puncturing of the larger segment of the tergum. It is also larger.

* * *Eyes entire or the emargination obsolete.*

EPHUTA.

4. *M. ERYTHRINA* Klug.—Scarlet-red, beneath black; wings blackish.

Inhabits Mexico.

Body with dense, bright scarlet-red hairs above; beneath black; antennæ and inferior part of the head black: wings black-violaceous; radial cellule truncate at tip; third cubital cellule pentagonal, contracted on the anal side, its apical nervures almost obsolete: metathorax black: abdomen, anterior declivity of the basal segment extending in an angle on the superior portion of the segment, black; petiole black; venter with a slight scarlet-red band rather behind the middle. ♀ with a black dot rather behind the middle of the tergum.

Length about nine-twentieths of an inch.

I obtained a female of this species in Mexico, and Dr. Klug has favored me with the sexes, differing in no respect from mine, except in being a little larger.

5. *M. SCRUPEA*.—♂ Black; with dilated punctures; tergum with a whitish band.

Inhabits Indiana.

Body black, a little hairy, and having large punctures, which on the stethidium and head are confluent and discoidal: mandibles piceous before the tip; wing-scale also punctured: wings slightly dusky; nervures blackish: stigma not distinct, or none; second cubital cellule larger than the first; the third largest; separating nervure [298] of the second and third cellules rectilinear: metathorax reticulate with larger discoidal punctures and having at base an oblong triangle: tergum, first segment short, abruptly smaller than the second, petioliform, with discoidal punctures, hairy, abrupt before, and on the anterior inferior tip having an angle on each side; second segment with the punctures rather distant, profound, with a band of whitish hairs on the posterior margin: remaining segments with numerous whitish hairs, and a dorsal elevated line.

Length less than three-tenths of an inch.

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Rather smaller than *nigrita* F., and may be distinguished by the more dilated punctures; the basal segment of the abdomen being suddenly smaller than the second, and shorter than in *nigrita*; by the abdominal band, and different configuration of the wing cellules. The emargination of the eyes is very small and acute.

6. *M. GIBBOSA*.—Black; petiole as long as the second abdominal segment; wings dusky at tip.

Inhabits Indiana.

♂ Body black; with numerous gray, but not concealing hairs: densely punctured; punctures large on the head and trunk: wings hyaline; at tip and including the radial cellule, fuliginous; stigma moderate; third cubital cellule incomplete; abdomen, first segment petioliform, as long as the second, and somewhat gibbous at tip, distinguished from the second by a deep stricture.

Length over three-tenths of an inch.

Resembles *scrupea* nob., but is larger, has a stigma and longer petiole. It is also like *nigrita* F., but is larger, with a much more obvious stigma: wings dusky at tip; the petiole more gibbous at tip, &c.

[299]

TENGYRA Latr. King.

T. STYGIA.—Black; mandibles piceous at tip.

Inhabits Indiana.

Body entirely black, immaculate, punctured; mandibles piceous at tip; near the tip one-toothed; wings hyaline; nervures black, separating nervure of the first and second cubital cellules wanting; stigma obvious, black: abdomen, segments contracted near the incisures: oviduct not extending beyond the terminal processes and concealed beneath them.

Length two-fifths of an inch.

Resembles *T. Sanvitali* Latr., but is larger, with a much larger stigma, and each abdominal segment is much more contracted before its posterior incisure.

METHOCA Latr.

M. BICOLOR.—♀ Rufous; head and part of the tergum black.

Inhabits Indiana.

Body pale yellowish-rufous, polished: head black: antennæ 1835.]

rufous, terminal joints piceous : mandibles and palpi rufous : thorax, segments subequal : anterior and posterior ones convex, subovate, intermediate one with two slightly elevated convexities : abdomen ovate-subfusiform : tergum with a transverse, triangular black spot at the tip of the second segment, another on the third, the remaining ones confluent.

Length one-fourth of an inch.

The abdomen does not contract abruptly to the petiole but subsides gradually. Van der Linden says that the species of this genus are the females of species of *Tengyra*. [Anh. des Sc. Nat. Jan. 1829, p. 48.]

[300]

TIPHIA Fabr. Latr.

T. TARDA.—Body polished, black, punctured : mandibles piceous in the middle : metathorax with three longitudinal lines, and the minute lines on the margin of the posterior declivity very regular and obvious : wings tinged with honey-yellow : nervures brown ; stigma black : incisure of the first abdominal segment not very much contracted : second segment at its basal margin with the minute longitudinal lines very regular and distinct : palpi dull piceous.

Inhabits Indiana.

Length about three-tenths of an inch.

The smallest species I have seen, and may be distinguished from its American congeners by its size. The male has the metathoracic lineations more distinct. It is smaller than the *femorata* of Europe.

MYZINE Latr. Klug.

1. M. HAMATUS.—Black ; thorax spotted and abdominal segments margined with yellow : the latter not abruptly emarginate each side.

Inhabits Indiana.

♂ Body black, polished, with small punctures : nasus, labrum, tip of the basal joint of the antennæ, two spots between the antennæ and base of the mandibles yellow : collar on the anterior margins interrupted in the middle and on the posterior margin, yellow : thorax with a spot in the middle emarginate before, yellow : metathorax, a transverse yellow spot near the scutel and an

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obscure yellow, longitudinal spot each side at tip : tergum with a perlaceous iridescence : on each segment a slender yellow [301] band on the posterior submargin, a little undulated obtusely on its anterior edge, not abruptly emarginated on each side ; on the anterior submargin of the segments an impressed transverse line : pleura, a small yellow spot beneath each wing ; wings hyaline, a slightly dusky margin at tip : feet, coxæ with a yellow spot : tarsi, excepting their tips : thighs at tip or a line above, and anterior pairs of tibiæ yellow : venter five spotted each side.

Length from three-fifths to seven-tenths of an inch.

This is so much like *M. subulata* nob., that it is not without much hesitation that I give it as distinct. It is, however, much larger and more robust, and the form of the bands of the tergum is different ; those of the *subulata* being abruptly notched each side of the middle as in the *valvulus* Fabr., whereas in the bands of the present species, instead of the abrupt notch, is an obtuse and dilated undulation of the edge.

A variety occurs in Missouri, of which the wings are yellowish, and the second recurrent nervure is confluent with the dividing nervure of the second and third cubital cellule.

2. *M. SUBULATUS* nob. *Sapyga*, Western Quarterly Reporter.—A variety inhabits Mexico in which the abdominal bands are less abruptly emarginate each side.

SAPYGA Latr.

S. CENTRATA.—Black, with yellow spots ; abdomen 5-banded. Inhabits United States.

Body black : head ——— : thorax with a transverse spot each side before, two on the middle, one beneath the superior wing, and two large ones behind, yellow : [302] wing hyaline ; nervures fuscous : stigma brown : radial cellule fuliginous : tergum, each segment, excepting the first, with a yellow, dilated band on its middle and more or less interrupted : venter with a transverse spot each side on the third, fourth and fifth segments : feet yellow : thighs, except at the tip, black : tarsi honey-yellow.

Length about three-tenths of an inch.

Var. ? *α*. Spots ferruginous.

Length nearly two-fifths of an inch.

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I have hardly a doubt that the individual here given as a variety is a distinct species; but as my specimens are much mutilated, I am unwilling to venture to separate them.

POMPILUS Fabr. Latr.

1. *P. CALIPTERUS*.—Wings bifasciate; antennæ and feet honey-yellow.

Inhabits Indiana.

Body black, polished, slightly pruinose: antennæ honey-yellow, a little dusky towards the tip: nasus, at tip, mandibles and palpi honey-yellow: wings hyaline, with a blackish band on the middle and a much broader one crossing the second and third cubital cellules; the latter hardly reaches the anal margin; basal series of transverse nervures dislocated at the externo-medial nervure: feet honey-yellow; tarsi with the ultimate joint blackish; intermediate and posterior pairs of feet more or less varied with blackish.

Length three-tenths of an inch.

A very pretty species, of which I have as yet obtained but two specimens. It is probably allied to the *bifasciatus* Fabr.

2. *P. ARCHITECTUS*.—Dark purple; wings hyaline. [303]

Inhabits Ohio.

♂ Body dark bluish-purple, somewhat hairy: head black in front, with short, dense, yellowish-cinereous hair: mandibles at tip piceous: wing-scale dark piceous: wings hyaline, nervures blackish: second and third cubital cellules not unusually contracted at the radial cellule, but almost equal in that part, feet black: tergum, anal segment polished.

Length about three-tenths of an inch.

This insect forms neat mud nests under prostrate logs and stones. They consist of short cylinders, agglutinated together alternately, and each composed of little pellets of mud, compressed, or rather appressed to each other. When these are adjusted to their places on the edge of the cylinder, each has a fusiform shape and the slender end of one laps over that of another, and the convex part of the pellet of the succeeding layer is placed against this duplicature so as to restore the equality of the edge. This arrangement gives the surface an alternate appearance.

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The basal series of transverse nervures is very slightly dislocated.

3. *P. BIGUTTATUS* Fabr.—The individual described by Fabricius appears to be a female. Coquebert gives its length at nine-twentieths of an inch, but it sometimes exceeds half an inch in length. The male is over three-tenths of an inch in length; it is destitute of the anterior white striga of the thorax, and the tip of the tergum has a white reflection; the posterior half of the metathorax also has a white reflection. The basal series of transverse nervures is not dislocated, in this species.

4. *P. LEPIDUS*.—Black; abdomen and wings purplish. [304]
Inhabits Mexico.

♂ Body black, slightly sericeous: wings dark purplish; second and third cubital cellules a little narrowed at the radial cellule, particularly the latter, which is less than two-thirds the length of the second cellule, in that part; basal series of transverse nervures not dislocated; metathorax with a very slight reflection of purplish, and without any impressed line; the posterior edge obviously reflected; tergum with a distinct purplish reflection; beneath black; in a favorable light a very slight purplish reflection may be perceived on the thighs.

Length two-fifths of an inch.

5. *P. 5-NOTATUS*.—Tergum on the second segment with two white spots; third segment with a white interrupted band.

Inhabits Indiana.

♀ Body black; head with a slight white reflection before; and a very slender white line on the posterior orbit: wings on the apical margin black; basal series of transverse nervures not dislocated; tergum with a white dot each side before the middle, on the second segment: third segment with a white, interrupted band at base, on the fourth segment at base is an obsolete, whitish spot each side, sometimes wanting; anal segment with a white spot at base.

Length two-fifths of an inch.

Resembles *biguttatus* Fabr., but is distinguished by the two or four more white spots on the tergum, as well as by the white spot on the anal segment.

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7. *P. MELLIPES*.—Black; feet yellowish rufous.

Inhabits Indiana.

♀ Body black, somewhat sericeous with silvery hairs; antennæ, joints long, distinct; mandibles piceous at tip: [305] palpi whitish: wings hyaline; third cubital cellule very little contracted before, larger than the second; first recurrent nervure entering the second cellule at the middle; basal series of transverse nervures dislocated; feet bright honey-yellow, the coxæ only black.

Length over two-fifths of an inch.

8. *P. (MISCUS) CORNICUS [CONICUS]*.—Black; wings a little dusky; basal line of transverse nervures widely dislocated by the externo-medial nervure.

Inhabits Indiana.

♀ Body black, immaculate; wings dusky; nervures blackish; second cubital cellule somewhat conic, the anterior basal nervure entering the radial cellule in a much arcuated direction, so as not to form an angle with it; third cubital cellule not much contracted anteriorly; basal series of transverse nervures widely dislocated, that portion which is between the externo-medial and anal nervures is equal to the length of the dislocation; abdomen polished; mandibles at tip piceous.

Length less than one-fifth of an inch.

♂ Wings less obscure; anterior tibiæ and tarsi obsoletely dull yellowish.

Length one-fourth of an inch.

9. *P. (MISCUS) PETIOLATUS*.—Tergum fulvous near the base; third cubital cellule petiolated.

Inhabits Indiana.

♀ Body black, a little sericeous: wings blackish; third cubital cellule decidedly petiolated: tergum with the terminal half of the first segment, and the greater portion of the second segment yellowish-fulvous.

Length over two-fifths of an inch.

The petiolated character of the third cubital cellule resembles that of *P. niger* Fabr. The basal series of transverse nervures is distinctly dislocated.

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[Continuation from Boston Journal of Natural History, vol. 1, May, 1837,
No. 4, pp. 361—416.]

MERIA Jur.

M. COSTATA.—♀ Black; tergum with yellow bands and two spots.

Inhabits Indiana.

Body black: head above the antennæ with a transverse line, slightly interrupted in the middle, an orbital line, and short line behind the eyes, yellow: mandibles piceous: thorax with two transverse spots before, a small, triangular one above the wing-scale, a transverse one behind the scutel, and a bilobed one each side behind, yellow; each side of the middle of the thorax are two abbreviated, somewhat oblique, impressed lines: metathorax with a double yellow longitudinal side and obvious transverse rugæ: pleuræ with a triangular spot under the superior wings, a small oblique line over the intermediate feet, yellow: wings with a brown costal margin: tergum [362] with a yellow band on the middle or before it, of each segment, excepting the last; the second band interrupted into two transverse, oval spots: venter with a longitudinal, lateral spot on the second segment and a transverse lateral one on the third, yellow; tarsi and intermediate and posterior pairs of tibiæ piceous; a yellow spot on the posterior coxæ.

Length half an inch.

Var α. Middle of the thorax with a small double yellow spot.

The observations which I had occasion to make relative to the generic affinities of *Plesia marginata* nob., are exactly applicable to this species. It agrees precisely with Jurine's character of *Plesia*, but differs from *Mizine* Latr. by having the mandibles entirely destitute of teeth, a character which it has in common with *Meria* Ill., but the form of its wing-scale, will not admit of its being referred to the latter genus; I have, however, in this instance, been guided by the characters laid down by Latreille in the Règne Animale (first Edition).

2. M. MARGINATA.—*Plesia marginata* nob., Western Quarterly Reporter.
1837.]

3. *M. COLLARIS*.—Collar with an interrupted band and two spots yellow.

Inhabits Indiana.

Body black : head with two spots above the antennæ, frontal orbits, and dilated line behind the eyes, yellow : mandibles dark piceous, black at tip : collar with an interrupted band on the posterior margin and two spots before yellow : thorax with a small yellow spot above the wings : wing-scale dull honey-yellow with a yellow spot : wings yellowish, fuliginous, dusky on the costal margin towards the tip ; behind the scutel is a transverse [363] yellow line : metathorax somewhat sericeous, without any appearance of rugæ, and with two yellow longitudinal spots : tergum with a somewhat varied reflection ; first and second segments with a lateral yellow spot, (those of the former probably, in some specimens, obsoletely connected) ; third and fourth segments with a lateral basal yellow spot, connected by a slender line ; fifth segment with an obsolete yellow lateral spot : pleura with a yellow spot under the anterior wings : feet, anterior knees and tibial dilated line yellow ; intermediate and posterior tibiæ and all the tarsi ferruginous : anal segment above minutely lineated, and at tip, dull ferruginous.

Length over three-fifths of an inch.

This species is larger than *costata* nob., which it much resembles, but may be distinguished by the sericeous appearance of the metathorax and the absolute destitution of rugæ on that part ; in the *costata* also, the lateral spots of the metathorax are double.

SCOLIA Fabr.

1. *S. EPHIPIUM*.—Black ; tergum bifasciate with fulvous.

Inhabits Mexico.

Body black : wings dark violaceous ; cubital cellules two, the second receiving two recurrent nervures, and with an abbreviated nervure proceeding from its base towards the tip of the wing : tergum violaceous-black ; second and third segments fulvous, with a narrow basal and terminal black margin ; beneath black : venter slightly tinged with violaceous : thighs not remarkably robust.

Length ♂ over one inch and one tenth.

A large and fine species.

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2. *S. DUBIA*.—Black; abdomen ferruginous behind with two yellow spots on the third segment.

Inhabits United States.

Body black: head and thorax immaculate: wings dark violet blue: cubital cellules two, with no appearance of more than one recurrent nervure: abdomen, first and second segments black; remaining segments ferruginous; more hairy, somewhat, than the others; the third segment, however, more or less tinged with blackish and with two transversely oval, a little oblique, bright yellow spots.

Length four-fifths of an inch.

A very fine, though rather common species, in various parts of the Union.

3. *S. CONFLUENTA* nob. Western Quarterly Reporter.—I think it highly probable that Drury's fig. 5, pl. 44, vol. i, is intended for this insect. I was deterred from quoting this figure in consequence of its yellow head and four-banded tergum; but the head is truly, on its front and base, covered with yellowish cinereous hair, as well as the anterior part of the collar; this may agree with Drury's observation that the "head is of a pale yellow, in front" and "the neck is hairy and of a lemon color." The species also probably varies in having four yellow bands. Drury's figure is that of a female, and my specimen agrees with it in having an immaculate thorax and scutel, as in the *fossulana* Fabr., which I believe to be in reality the female of this same species, and of course the same as that of Drury; whereas he quotes Drury's figure as that of *radula* F. which appears to be the male, if I may judge by the "thorace maculato" and other corresponding characters. I have no index to the first volume of Drury, but Fabricius quotes the figure as [365] *Sphex plumipes* Drury. If this be correct, Drury has the priority, and the name and synonyms, will stand thus:

Scolia plumipes Drury.

" *fossulana* Fabr. (female).

" *radula* Fabr. (male).

" *confluenta* Say, (female).

CEROPALES Lat.

1. *C. INTERRUPTA*.—Black, spotted and banded with yellow; wings dusky; antennæ and feet honey-yellow; tarsi yellow.

Inhabits Indiana.

Antennæ honey-yellow; first joint, bright-yellow: labrum yellow, black at base: hypostoma yellow, with a quadrate spot and incisures black: orbits dilated, yellow, interrupted above: thorax impunctured; margin of the anterior segment all around, longitudinal spot each side of the scutel and transverse spot behind the scutel, yellow: metathorax at tip bifasciate with yellow, posterior band clavate each side on the pleura: wings fuliginous, particularly on the cubital cellules and tip: abdomen ferruginous, varied with obsolete yellow and black bands; and with two yellowish spots on the first segment: pleura with a spot behind the wings and a larger one over the intermediate feet, yellow: coxæ varied with yellow: thighs honey-yellow, black at base: tibiæ honey-yellow, yellow at base: tarsi yellow.

Length two-fifths of an inch.

Closely allied to *fasciata* nob. but the thorax is not distinctly punctured, the wings are dusky, &c. [366]

2. *C. APICALIS*.—Black; wings black at tip; abdomen with a rufous band; tip white.

Inhabits Indiana.

Body black: hypostoma hoary: collar on the posterior margin white: wings hyaline with a fuliginous tip, in which is an obsolete hyaline spot or band: metathorax dull silvery; abdomen rather slender towards the base; second segment, excepting on its posterior margin, fulvous; anal segment white: posterior tibiæ with a white line on the posterior side: intermediate and posterior tarsi with the second, third and fourth joints white, with black tips.

Length over two-fifths of an inch.

CHLORION Latr.

C. CANALICULATUM nob. (*Ampulex*) Western Quarterly Reporter, vol. ii. p. 76.

The name *Chlorion* has priority over that of *Ampulex* given by Jurine.

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BEMBEX Fabr. Latr.

1. *B. LONGIROSTRA*.—Rostrum extending beyond the insertion of the intermediate feet; superior wings with the marginal and last submarginal cells divided by a very distinct space.

Inhabits Mexico.

Body black, with short, dense, white hair: antennæ tinged with piceous; first joint white beneath: anterior orbits dull white: nasus whitish, with two black spots: tergum white, with a bilobate, black spot at base: rostrum honey-yellow; extending nearly to the origin of the posterior feet: collar, anterior and posterior margins white: [367] thorax with a very small fulvous, abbreviated line each side of the middle, and a small, double, fulvous spot behind the middle: scutel with a white lateral spot: metathorax with a white line at base and an oblique one each side towards the tip: tergum varied with yellow and black or green and black; the posterior margins of the segments dull rufous; about four distinct black spots: feet honey-yellow: thighs black beneath: tarsi paler: venter honey-yellow, with a black spot before the anterior spine.

Length from seven-tenths to four-fifths of an inch.

With the short maxillary palpi and the one-toothed mandible of *Bembex*, this insect has the radial and last cubital cellules as widely separated at their tips as in *Monedula*. The proboscis is not folded, but extended horizontally beneath the body. These characters may justify the formation of a distinct genus, or at least of a division, under the name of *Steniolia*.

2. *B. FASCIATA* Fabr.—A male in my cabinet has six bands upon the tergum and two spots on the ultimate segment: the first band is double the width of that of the female, and is interrupted by a very small space only; second band not interrupted, but its two lunules are so continued as to inclose two black spots; third band with the lunules not or hardly interrupted; fourth and fifth bands interrupted; sixth band entire, undulated: spots on the ultimate segment, orbicular; the female has but five bands.

GORYTES Latr.

G. PHALERATUS.—Black, sericeous, varied with yellow ; wings dusky.

Inhabits Indiana.

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Body blackish, impunctured : head golden sericeous : antennæ, basal joint yellowish : nasus and mouth, excepting the tip of the mandibles, pale yellow : thorax, posterior margin of the collar, abbreviated line over the wings, and wing-scale, yellow : scutellum yellow : wings dusky, purplish-fuliginous, tinged with yellowish towards the base ; stigma small ; second cubital cellule obviously hexagonal : metathorax with two large, oblong-oval, yellow spots ; triangle at base destitute of small lines and with but a single impressed line : tergum, basal segment yellow ; posterior narrow margin, and lobed spot on the disk communicating with the base, black : second segment yellow on the posterior margin, the yellow rather dull and a little undulated on its inner edge : third and fourth segments with obsolete yellowish posterior margins : pleura somewhat silvery sericeous, with three almost confluent yellow spots in a line with the collar : feet pale, honey-yellow ; thighs and coxæ, with more or less of black above.

Length about half an inch.

This is a large species. The character which Jurine mentions as common to all the species, of having behind the scutellum a triangular space, in which parallel lines are sculptured, is so modified in this species as to present the triangle with only a simple longitudinal impressed line.

NYSSON Latr.

N. AURINOTUS.—Black ; metathorax two-spined ; tergum with three lateral spots.

Inhabits Indiana.

Body black, punctured : head before with a slight yellowish sericeous reflection ; mandibles piceous ; collar [369] with an obscure golden margin, terminating in a spot : metathorax with a golden spine each side, in a golden spot : wings dusky : tergum on the posterior edges reflecting whitish ; at base of the first segment, obscure golden sericeous ; posterior margins of the first,

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second and third segments, each with a yellow band widely interrupted in the middle, the anterior one largest: feet honey-yellow: thighs black at base.

Length three-tenths of an inch.

Readily distinguishable from *N. 5-spinosus* nob. Resembles *N. interruptus* F. but the areolæ of the metathoracic spines are not gilded in that species.

PSEN Latr.

1. *P. MELLIPES*.—♀ Black, with a silvery reflection; antennæ at base, tibiæ and tarsi piceous.

Inhabits Indiana.

Body black: head beneath the antennæ yellowish-silvery: occiput with a silvery reflection: antennæ to the seventh joint honey-yellow: mandible piceous: thorax with longitudinally confluent punctures, a slender transverse line before, four or six obsolete spots near the scutel and two large obvious ones near the insertion of the petiole of the abdomen: wings hyaline; nervures black stigma brown; second cubital cellule receiving both recurrent nervures: abdomen immaculate, with a few hairs towards the tip; petiole as long as the posterior tarsi or rather longer, arcuated, piceous: tibiæ and tarsi piceous or honey-yellow; anterior pair with dense, short, golden hair.

Length nearly eleven-twentieths of an inch.

Very similar in form and color to *P. atratum* Fabr., [370] which, however, has the second and third cellules each receiving a recurrent nervure, and the petiole is proportionally rather shorter.

2. *P. LEUCOPUS*.—Black; hypostoma silvery: tarsi white.

Inhabits Indiana.

♀ Body black, with a slight silvery reflection: antennæ immaculate: hypostoma entirely silvery: thorax with minute, longitudinal lines on the disk: wings hyaline: nervures blackish; second cubital cellule receiving the two recurrent nervures: tergum impunctured, polished; petiole slightly arcuated, rather shorter than the posterior tarsus: tarsi white, dusky towards the tip.

Length over three-tenths of an inch.

♂ Lines of the thorax only visible at base and tip.

Length over one-fifth of an inch.

LYROPS Illig.

† Stemmata, one.

1. *L. ARGENTATA* Beauv.—Black; tergum, segments margined with dark glaucous; metathorax with a few wrinkles on the posterior lateral margin.

Inhabits the United States.

♀ Body black: collar having a gradually elevated angle on the middle: wings slightly dusky; a darker band at tip; by an obliquely transmitted light, opalescent, varying to purplish, and at tip, in the darker portion, tinged with green; recurrent nervures entering the second cubital cellule very near to each other, but little more than their own width apart: metathorax, posterior lateral edge wrinkled transversely: tergum, posterior margins of the [371] segments dark glaucous, without any bright silvery reflection: posterior pair of tibiae at tip behind, with a ferruginous spot. ♂ More slender, wrinkles of the metathorax less obvious, and the recurrent nervures at their entrance into the second cubital cellule not quite so close together.

Length ♀ nearly half an inch.

The color of the wings, by a particular, obliquely transmitted light, is very beautifully perlaceous and somewhat iridescent.

2. *L. PEPTICA*.—Black; tergum fasciate with glaucous, reflecting silvery.

Inhabits Indiana.

♀ Body black; reflecting silvery, particularly on the head and feet: palpi piceous-yellowish: collar silvery on the posterior margin; thorax and scutellum having their sutures reflecting silvery: wings hyaline; nervures honey-yellow; recurrent nervures moderately near each other at their junction with the second cubital cellule: tergum, segments excepting the ultimate one, on their posterior margins glaucous reflecting silvery: anal segment with a bright golden reflection: feet black, reflecting silvery; last tarsal joint rufous.

Length over half an inch.

♂ Head and base of the mandibles with a golden reflection : anal segment reflecting silvery.

Length under half an inch.

The black tibiæ and tarsi will at once distinguish this species from *aurulenta* F., than which it is also smaller.

3. *L. AURULENTA* F. (*Larra*) Syst. Piez. p. 220. [372]

LYRODA.

† † Stemmata, three.

4. *L. TRILOBA*.—Deep black, immaculate : head anterior to the antennæ with a slight silvery reflection : mandibles dull rufous towards the base ; collar somewhat trilobate, or having above an obvious angle in the middle and a more obtuse one on each side ; thorax having a distinct, impressed, longitudinal line before ; wings purplish fuliginous, almost opaque ; recurrent nervures rather distant at their junction with the second cubital cellule ; tergum in a particular light, more obviously sericeous on the posterior margins of the segments.

Length over half an inch.

This has very much the appearance of *Larra æthiops* nob., but is much larger. In that species also the collar is emarginate in the middle, the wings are but very slightly tinted, and the recurrent nervures approximate at their junction with the second cubital cellule ; it has but one ocellus, and the mandibles are not obviously armed with a tooth on the inner edge.

5. *L. SUBITA*.—Black ; tergum, segments margined with a whitish reflection ; metathorax wrinkled above.

Inhabits Indiana.

♀ Body black : head before with a somewhat silvery reflection : collar with an abruptly elevated angle in the middle ; wings at tip dusky ; recurrent nervures entering the second cubital cellule, at a distance from each other ; third cubital cellule but little narrowed : metathorax with small, transverse wrinkles on the disk as well as on the sides : tergum, posterior margins of the segment with a silvery reflection.

Length

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Resembles *caliptera*, but may be distinguished by the greater width of the third cubital cellule ; by the greater distance between the
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tween the recurrent nervures at their entrance into the second cubital, and by the more wrinkled metathorax.

TRYPOXYLON F. Latr.

1. *T. POLITUS*.—Black; very highly polished: without any silvery reflection; thorax and scutellum with a slightly impressed, longitudinal line: wings black-purple, almost opaque: abdomen rather less slender at base than that of *T. fígulus* F., but the basal joint is rather abruptly slender on its basal half; this segment has an abbreviated, impressed, longitudinal line before its tip; second segment with a similar line before its middle: on the head and stethidium are very numerous, small punctures, but none on the abdomen: posterior tarsi white, first joint at base, and pulvilli blackish.

Inhabits Indiana.

Length nine-tenths of an inch.

Judging by memory, as I have not his work here, this is probably the *albitarsa* Beauvois, but although it agrees with the short description of Fabricius, yet I greatly doubt if it is the *albitarsa* of this author, who gives its native country as South America, on the authority of Mr. Smith and of the Museum of Mr. Lund, from whom and from Mr. Sebestedt he obtained an opportunity to describe a great number of Hymenoptera of that portion of our hemisphere; and but two species from North America. For these reasons I have been led to consider the *albitarsa* F. as South American; and as Latreille says that every thirty degrees of latitude exhibits a total change [374] in the insect productions, I give a new name to this species.

2. *T. CLAVATUS*.—Abdomen at base slender and a little nodulous; wings at tip dusky.

Inhabits United States.

Body black; head and stethidium with silvery reflection: wings hyaline, terminal margin dusky: abdomen clavate: the first and second joints petioliform, a little nodulous at their tips: posterior tarsi white; the terminal joint and base of the first joint black; ♂ with a spine on the posterior trochanter.

Length about nine-twentieths of an inch.

Var. *a*. Terminal joints of the tarsi blackish ; a yellow band at base of the second segment of the tergum.

Judging from memory, as in the preceding instance, I suppose this to be the *fuscipennis* Beauvois, but not that of Fabricius, for the reasons there adduced. I may also state that this species does not correspond with Fabricius' description in having "*alæ nigræ cyaneo parum nitidæ*," neither does it agree with "*Pedes nigri tarsis albis*" inasmuch as the posterior pair only are partially white.

3. *T. CARINATUS*.—♂ Black : head and stethidium with silvery reflection : a prominent, acute carina between the antennæ, divaricating above the antennæ into two carinæ : antennæ emarginate beneath towards the middle : wings hyaline : a slight tint of dusky at tip : tergum gradually attenuated to the base ; three first incisures a little contracted ; feet, anterior pair of knees, tibiæ and tarsi yellowish ; intermediate knees and tarsi yellowish in the middle above dusky ; posterior tarsi obscurely yellowish towards the tip.

Inhabits Indiana.

Length three-tenths of an inch.

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Remarkable by the carina of the head and the emarginate antennæ. It is much smaller than the *figulus* F., and its abdomen is formed as in that species.

OXYBELUS Latr.

1. *O. EMARGINATUS*.—♂ Black ; scutellar spine emarginate ; tergum 4-spotted.

Inhabits Indiana.

Body black, with a slight silvery reflection, particularly on the anterior part of the head : antennæ dull yellowish at tip : wing-scale honey-yellow : wings hyaline : scutel with a dilated process widely emarginate at tip, and a lateral subanceolate, decurved, acute, white one ; tergum, first segment with a longitudinal, indented line, and a transverse, abbreviated, white line at tip each side ; second segment also with a similar line : tarsi pale honey-yellow : anterior thighs yellow at tip : tibiæ yellow ; posterior pair black, yellow at base.

Length three-twentieths of an inch.

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2. *O. 4-NOTATUS* nob. Long's Expedition.

The male is almost destitute of spots on the second segment of the tergum, and all the tibiæ have a white line.

This species resembles the *O. trispinosus* Fabr., but that insect may be distinguished by the dilated figure of the spot on the basal segment of the tergum and by the tibiæ being entirely honey-yellow.

3. *O. LÆTUS*.—Line on the collar, on the scutellum and five lateral spots on the tergum yellow.

Inhabits Indiana.

♂ Body black, punctured; head with a slight silvery reflection: antennæ ferruginous: mandibles yellow, piceous [376] at tip: collar with a transverse, somewhat undulated yellow line, interrupted in the middle: scutellum with a double, transverse, yellow spot; metathorax with the middle spine simple; the lateral ones depressed, whitish, margined on the inner side with bright yellow: tergum with five yellow spots on each side: knees, tarsi and tibiæ yellow, the latter with a dilated black line on the inner side.

Length nearly one-fifth of an inch.

Smaller than *mucronatus* F., which is destitute of the scutellar line. It may be distinguished from the preceding species, by the yellow color on the collar and scutellum.

CRABRO Fabr.

C. CONFLUENTUS [CONFLUENS].—Black, with large confluent punctures; tergum interruptedly fasciate.

Inhabits Indiana.

♀ Body black, densely and confluent punctured, particularly on the stethidium, where they are sometimes longitudinally confluent, so as to exhibit lines between them; they are largest on the metathorax; hypostoma and anterior orbits behind the basal joint of the antennæ, silvery: antennæ, basal joint yellow; second joint honey-yellow; collar yellow, slightly interrupted in the middle: scutellum with a large, transverse, yellow spot; a yellow transverse line behind it; wings slightly tinged with dusky: abdomen oval, rather abruptly narrowed at base: tergum with the incisures contracted, the segments being convex; approxi-

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mately punctured ; segments on their middles, each with an equal band which is interrupted for only a narrow space at the middle : pleura with a yellow spot at the humerus : knees, tibiæ and tarsi yellow : venter immaculate. [377]

Length over three-tenths of an inch.

♂ Spot of the scutel interrupted or wanting ; antennæ beneath, dull honey-yellow ; the two posterior bands of the tergum generally confluent in their middles ; abdomen longer and more slender than that of the female.

Length three-tenths of an inch.

The sexes are more readily distinguished by the tip of their abdomen than by the antennæ. I have nine males and three females : two of the latter measure two-fifths of an inch. The punctures of this species are larger and more dense than in our other species.

C. ARCUATUS.—Metathorax with numerous parallel lines ; tergum with yellow spots and bands.

Inhabits Indiana.

Body black, with minute, dense punctures : front with a wide glabrous interval between the silvery orbits : antennæ, basal joint yellow, with a black line near the inner base ; sixth joint arcuated, a little prominent inwardly at tip : hypostoma yellowish-silvery : thorax with a slightly interrupted line on the collar, of a bright yellow ; a yellow transverse line beneath the scutel : wings a little tinged with dusky : metathorax with numerous, small, parallel lines, arcuated at base, and transversely rectilinear behind, extending upon the pleura beneath the wings : pleura with two small yellow spots before : tergum with an oblique somewhat arcuated, yellow spot each side of the first segment ; an oblique elliptic one on the second segment each side ; a reclivate, transverse, lateral yellow line on the third ; remaining segments each with an entire, slightly undulated, slender greenish-yellow band : anal processes acute, very deeply and regularly ciliated : feet yellow : coxæ and trochanters black : thighs at the base black ; the black portion very small on the anterior [378] pair, but on the posterior pair extending on the inferior surface to the tip : venter immaculate.

Length two-fifths of an inch.

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STIGMUS Jur. Latr.

1. *S. PARALLELUS*.—This species resembles the *fraternus* nob. but it may be distinguished by the following comparative characters. The posterior thighs and middle of the tibiæ are black. The stigma is a little smaller. The dividing nervure of the first and second cubital cellules is parallel to the posterior nervure of the second discoidal cellule; whereas in the *fraternus*, the latter is more oblique.

The size is much the same.

Inhabits Mexico.

The *Stigma fraternus*, is not uncommon in Indiana, and as in the present species, the hypostoma of the male is somewhat silvery.

2. *S. PUSILLUS*.—Petiole obsolete: second cubital cellule large.

Inhabits Indiana.

Body black, polished: head before, and mouth, including the mandibles, whitish: antennæ honey-yellow; basal joint before, whitish: wings hyaline; nervures pale brownish; stigma fuscous; second cubital cellule large, somewhat longer than broad: feet honey yellow; posterior pair blackish; abdomen with a very short petiole, almost sessile.

Length about one-twelfth of an inch.

This is much the smallest species I have seen. The dividing nervure of the first and second cubital cellules is exactly opposite to the posterior nervure of the middle discoidal cellule. The hypostoma of the female is black.

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PEMPHREDON Latr.

1. *P. MARGINATUS*.—Black; antennæ at base, mandibles and feet honey-yellow.

Inhabits Pennsylvania.

Body polished; antennæ blackish; first and second joints honey-yellow; the former as long as the second and third together, which are nearly equal: mandibles honey-yellow, not very obviously denticulated at tip: wings tinted with fuliginous; nervures brown; stigma fuscous, not much dilated; nervures of

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the second cubital cellule and second recurrent nervure margined with whitish, the latter abbreviated before the anal tip : abdomen subsessile ; with the exception of the first segment, piceous blackish : feet honey-yellow.

Length over three-twentieths of an inch.

The second cubital cellule is somewhat larger than usual, and the nervures which form it, as well as the second recurrent nervure, are less distinct than usual.

2. *P. ANNULATUS*.—Black ; mandibles white ; feet yellowish. Inhabits Indiana.

♀ Body black, polished, minutely punctured : antennæ, basal joint white ; second joint piceous : nasus prominent in the middle : mandibles and palpi white : wing-scale dull honey-yellow : wings hyaline ; nervures blackish, tinged with yellow at base ; first and second cubital cellules receiving their appropriate recurrent nervures : metathorax with larger punctures and lines : abdomen polished, impunctured, subsessile, the petiole being very short : pleura with a small whitish dot under the wing-scale : feet honey-yellow.

Length one-fifth of an inch.

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♂ Hypostoma silvery : nasus rounded : antennæ annulate, one-half of each joint being yellowish.

Length over three-twentieths of an inch.

ALYSON Jur.

1. *A. OPPOSITUS*.—Black ; feet honey-yellow ; tergum with two yellow spots.

Inhabits Indiana.

♀ Body black : mouth, hypostoma and anterior orbits yellow : antennæ at base beneath yellow : thorax with an obsolete yellow spot before the wings each side : wings very slightly tinted with dusky, more particularly in an obsolete band toward the tip : nervures fuscous : stigma brown : recurrent nervures entering the petiolated cellule exactly opposite to its bounding nervures : spines very short : feet honey-yellow : tergum polished, first segment honey-yellow ; second segment with a large, lobately-rounded, bright yellow spot each side at base ; the base is also obsoletely honey-yellow.

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♂ Antennæ, terminal joint as long as the first, arcuated : wings not distinctly tinted with dusky except in the radial cellule : abdomen, with the exception of the two yellow spots, black : tarsi paler than the tibiæ and thighs.

Var. *a*. Yellow spots of the tergum obsolete.

Length three-tenths of an inch.

In form, size and color, very similar to *A. spinosus*, (*Pompilus*), Panzer. But in that species the feet are blackish, &c.

2. *A. MELLEUS*.—♀ Honey-yellow ; head, pectus, and tip of the abdomen black.

Inhabits Indiana.

Thorax honey-yellow : head black : mouth, anterior [381] orbits and basal joint of the antennæ excepting a line on the exterior side, whitish : region of the scutel dusky : wings with a dusky band : metathorax honey-yellow, with the elevated lines rather slender ; the lateral lines of the dorsal area arcuated : tergum with the first and second segments honey-yellow, the latter with a lateral whitish spot ; remaining segments blackish ; anal segment obscure piceous : pectus black : feet, excepting the base of the posterior coxæ, honey-yellow.

Length under one-fourth of an inch.

The prevailing honey-yellowish color distinguishes this species ; and the metathoracic lineations are much finer than those of the preceding species. The lateral lines of the dorsal area of the metathorax in the *oppositus* are nearly rectilinear.

CERCERIS Latr.

1. *C. FUMIPENNIS*.—♂ Black ; tergum with a broad band and very narrow ones ; wings blackish.

Inhabits Indiana.

Body black, densely punctured : head with a golden, suborbicular, orbital spot beneath the line of the antennæ, and dense golden ciliæ each side at the mouth ; antennæ entirely black : collar with two yellow spots : behind the scutel a transverse, yellow line : wing-scale with a small yellow spot : wings blackish ; first recurrent nervure entering opposite to the dividing nervure of the first and second cubital cellules : tergum, incisures wide ; first segment rounded ; second with a broad, equable, ter-

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minal band; remaining segments with each a terminal capillary band, more or less interrupted in the middle; posterior band wider and somewhat irregular: tibiæ yellow pale, [382] on the inner side and tip of the exterior side black: tarsi, anterior pair dull yellowish; posterior pairs, except at base, blackish: venter immaculate.

Length over two-fifths of an inch.

Resembles *C. deserta* nob., but aside from other differences it may be distinguished by that species having somewhat clearer wings, and the inosculation of the first recurrent nervure being opposite to the middle of the second, or petiolated cubital cellule; the antennæ also in that species are yellowish before, towards the base; the scutel has two spots in addition to the yellow line behind it, and the bands of the tergum are always broader than in the present species. The *fallax* nob. differs in having the transverse yellow line on the scutel in a direct line between the origin of the posterior wings; whereas in the present species it is behind the scutel.

2. *C. SEXTA*.—A broad band on each segment of the tergum; metathorax with a lateral spot.

Inhabits Missouri.

Body black; head before, base of the mandibles and basal joint of the antennæ beneath, yellow; third joint of the antennæ dull honey-yellow: collar with two large yellow spots: wing-scale and transverse line behind the scutel yellow; the triangular impunctured space behind the transverse line very obvious, with oblique lines and a longitudinal one in the middle: wings a little fuliginous particularly on the margin and tip; nervures brown; stigma yellow; recurrent nervure of the second cubital cellule entering at its middle: metathorax with a large, oval, longitudinal, yellow, lateral spot: tergum with a broad yellow band on each segment; that of the first or petiolar segment slightly interrupted in the middle; the two ultimate ones almost ferruginous: feet honey-yellow, [383] more or less varied with bright yellow: venter with interrupted bands.

Length over half an inch.

This was given to me by Nuttall. With the exception of *frontata* and *bidentata* nob. this is the largest North American 1837.]

species I have seen, and the much more dilated bands of the tergum are distinctive.

PHILANTHUS Fabr. Latr.

P. SOLIVAGUS.—Black, with small punctures; tergum fasciate on each segment.

Inhabits Indiana.

♂ Body black; punctures numerous, small: hypostoma, anterior orbits, to the emargination, and large spot above the insertion of the antennæ yellow: collar, margin yellow, slightly interrupted in the middle: stethidium immaculate: wing-scale yellow: wings very slightly tinged with dusky; nervures fuscous, towards the base and stigma honey-yellow: tergum, segments having each a greenish yellow band on the posterior submargin, that of the first segment largest, the others subequal: sixth segment immaculate: pleura, pectus and venter immaculate: knees, tibiæ and tarsi yellow: posterior pair of tibiæ with a spot on the posterior tip and their tarsi above tinged with ferruginous.

Length two-fifths of an inch.

RYGCHIUM Spinola.

1. *R. BALTEATUM*.—♀ Black, thorax and head varied with ferruginous; tergum with a yellow band.

Inhabits Indiana.

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Body black, punctured: head ferruginous; region of the stemmata, black: antennæ black, first and second and half of the third joints ferruginous: thorax with a broad ferruginous margin, including the scutel, and with more or less of ferruginous in the middle; anterior margin with a slender yellow line interrupting the ferruginous margin: wings black-violaceous: feet yellowish: thighs dusky at base: tergum, first segment impunctured, on the posterior margin a yellow band abruptly dilated each side; second segment slightly punctured at base, posterior indented, with large punctures, and dull ferruginous; remaining segments punctured.

Var. *a*. Behind the scutel a transverse, yellow, abbreviated line.

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Var. β . Posterior margins of the terminal segments of the tergum obsoletely ferruginous.

Var. α . The ferruginous color predominates having but a small portion of black on the thorax; the tergum is ferruginous with only a line of black on the first segment, and a triangle of black at base of the second segment; but the yellow band on the first segment is still visible though less obvious.

Length over four-fifths of an inch.

Not a common insect.

2. R. 5-FASCIATUM nob. (*Pterochilus*,) Appendix to Long's second Expedition. I am not sure of the generic place of my specimens as they have lost their trophi. [Ante 1, 234.]

3. R. CRYPTICUM nob. (*Odynerus*,) Western Quarterly Reporter. [Ante 1, 168.]

4. R. ANNULATUM nob. (*Odynerus*,) Appendix to Long's second Expedition. [Ante 1, 235.] [385]

ODYNERUS Latr.

1. O. QUADRISECTUS.—Black; trunk before and behind, tergum before and a band, white.

Inhabits United States.

Body black, punctured: head with a small spot above the interval of the antennæ, line on the basal joint of the antennæ, superior lateral margin of the clypeus and slight spot on base of the mandibles obscure white: thorax, a bi-lobed band on the anterior margin, spot beneath the wing, triangular spot each side on the scutel, transverse line behind the scutel, behind that again on each side is a very large triangular spot extending down almost to the origin of the abdomen, white; edge of the posterior declivity of the metathorax with a slight bifid, transverse, denticulated crest: wings dark violaceous: tergum, first segment white, with a dorsal, triangular, lobated black spot communicating with the black anterior declivity; second segment with an undulated, dull white band behind, and an obsolete, very small spot of the same color each side before the middle: feet with short, whitish sericeous hair.

Length over seven-tenths of an inch.

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This is much like the *quadridens* Linn., which is a true *Odynerus*, but it is destitute of the metathoracic spines of that species, and besides other differences it has a band on the second abdominal segment. This latter character not being very obvious may readily have been overlooked by Fabricius.

The male differs but little from the female; my specimens have two additional white spots on the anterior portion of the nasus.

2. *O. OCLATUS*—♂ Black, tips of the abdominal segments and two points on the second segment, yellow. [386]

Inhabits Ohio and Missouri.

Body black, with dense, rather large punctures: clypeus yellow, emarginate at tip: mandibles yellow, honey-yellow at tip: antennæ, basal joint yellow, with a black line above: front with a yellow line from the base of the antennæ, into the emargination of the eye, and a small spot above the interval of the antennæ, yellow; thorax, a bilobed spot on the anterior margin, wing-scale and small spot beneath it, and transverse spot behind the scutel, yellow: wings dusky: tergum not so grossly punctured as the thorax; first segment with a yellow posterior margin; second with a yellow small dot each side, and yellow posterior margin extending around the venter; remaining segments obsoletely margined at tip with yellowish: feet yellow; thighs black at base.

Length over three-tenths of an inch.

Like the *acutus* Latr., but may be distinguished by its more gross puncturing, as well as by the yellow dots on the tergum.

A variety from Missouri, has the feet all yellow.

3. *O. QUADRIDENS* Linn. (*Vespa*,) Syst. Nat.; Amoen. Acad. *cinerascens* Fabr. The remark "size of *parietina*" may refer to the male.

4. *O. UNCINATA* Fabr. (*Vespa*,) Syst. Piez. p. 25.—Fabricius mistook this species for the *quadridens* L., which is our largest and most common species, and sufficiently distinguished from the present, besides the denticulated metathorax, by many characters; and the following is a detailed description of it.

♀ Black; tergum with a yellow band.

Inhabits Indiana.

Body black, punctured : head, short line behind the eye, dot above the interval of the antennæ, one exterior [387] to the antennæ, one each side on the clypeus, and antennæ beneath, brighter towards the base, dull fulvous : mandibles on the exterior margin, honey-yellow ; thorax, bilobed spot on the anterior margin and transverse line behind the scutel, yellow : wing-scale piceous, black on the inner margin : wings blackish-violaceous : tergum, first segment on the posterior margin with a yellow band abruptly dilated each side ; second segment at tip with much larger and confluent punctures : feet orange : thighs, except at the knee, black.

Length three-fifths of an inch.

Differs from any of the varieties of our *parietinus* Linn., I have seen, though it is nearly allied to that species.

5. *O. ANORMIS* S. (*Eumenes*) Long's second Expedition, probably belongs to this genus, but as the head of my specimen is destroyed, I cannot be certain whether it may not be a *Pterocheilus* Klug. It is like the *oculatus* S.

LETHUS F. Latr.

L. SPINIPES.—Black ; clypeus broader than long ; first abdominal segment somewhat white at tip.

Inhabits Indiana.

Body black, punctured : clypeus much wider than long : wings dark violaceous : tergum slightly punctured ; peduncle rather slender, somewhat gibbous, with an indented spot above, near the tip, terminal margin with a piceous, dentate band ; second segment with a distinct neck at base ; posterior margin abruptly and smoothly impressed ; and with the remaining segments immaculate : tibiæ, posterior pairs spinous behind. [388]

Length seven-tenths of an inch.

Differs from *L. cyanipennis* F., which it seems to resemble most, in being smaller, more polished, having no testaceous at base of the petiole or on the sides of the metathorax ; the wings also are less opaque.

POLISTES Latr.

1. *P. METRICA*.—Ferruginous; abdomen black; wings dark violaceous.

Inhabits United States.

Body ferruginous: antennæ, fuscous; first and second joints ferruginous beneath; five or six last joints fulvous beneath: hypostoma with a few distant yellow, short hairs, not sericeous; at the middle of the tip, a little prominent: thorax, with a black dorsal line abbreviated behind, each side of which is an obsolete line confluent behind, exterior to which at base is a black line attenuated before and abbreviated: wings dark violaceous: feet black; tibiæ within, excepting the posterior pair; knees and tarsi yellowish: abdomen black; first segment obsoletely piceous each side and on the posterior edge: second segment also with obscure ferruginous on each side, sometimes obsolete.

Length over four-fifths of an inch.

Resembles the *annularis* Fabr., but the ferruginous color is more prevalent; the hypostoma is not sericeous, a little more prominent in the middle; the basal abdominal segment is somewhat larger and destitute of the annulation. I have obtained it abundantly in Indiana and Mr. Barabino sent it to me from New Orleans.

2. *P. AREATA*.—Thorax black bilineate and margined with yellow. [389]

Inhabits Mexico.

Head yellow: nasus with black sutures and line before from the middle, bifarious near the antennæ: mandibles piceous at tip: antennæ reddish-brown, darker above, and on the first joint yellow beneath: vertex black, of which two broad lines descend to the antennæ and one descends each side, for a short distance, posterior to the eyes; a yellow oblique line from the summit to the tip of the eyes; thorax black, with two yellow vittæ: collar, with an abbreviated line before the wings, and a transverse anterior one, black; wings slightly ferruginous on the costal margin: scutel and segment beneath it yellow, the former black in the middle: metathorax yellow, a black vitta, and lateral basal spot: abdomen, first segment petioliform, as long as the second: tergum

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black, segments on their lateral and terminal margins yellow, the latter undulated before; second segment yellow also at base; beneath yellow, with black incisures: feet yellowish; posterior pair darker behind: venter yellow, with two or three slender obsolete dusky bands.

Length less than half an inch.

3. *P. VALIDA*.—Yellow; middle of the thorax and base of the segments of the tergum ferruginous.

Inhabits Mexico.

♀ Body dull yellow, with ferruginous sutures: head above, and antennæ at base, ferruginous: thorax on the disk ferruginous: wings yellowish ferruginous: tergum with the segments ferruginous at base: venter greenish-yellow, at base ferruginous: feet ferruginous; coxæ and part of the thigh yellow.

Length over one inch.

A large and rather robust species. The male is more exclusively ferruginous with the posterior pairs of tarsi whitish; the head in my specimen is destroyed. [890]

4. *P. MELLIFICA*.—Wings yellowish; abdomen fasciate.

Inhabits Mexico.

Body blackish, sericeous, with a slight golden reflection: clypeus not acute, but almost rounded at tip: mandibles at tip piceous; thorax with a distinct, longitudinal, impressed line before, extending to the middle: wings yellowish; dusky at tip: scutellum truncate at tip, or rather very obtusely emarginate: metathorax almost vertical, with a distinct, prominent, robust angle each side; abdomen, first segment, small and short; second greatly the largest; all margined behind with orange yellow: venter with all the margins yellow excepting the basal one.

♂ Basal joint of the antennæ beneath yellow: nasus very sericeous, having a whitish reflection: coxæ and trochanters yellowish-white.

Length over three-tenths of an inch.

Not being able to find my notes relative to this species, I can only state, that near Jalapa, my attention was attracted by a group of Indians, who were eating honey from a paper nest, which was then so far dissected in their repast, that I could not

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ascertain its proper form. The honey had a pleasant taste, and as far as I could gather from their gestures, the nest was obtained from a tree. Some of the specimens above described I found crawling feebly away, and others I extracted from the cells in a perfect state.

The trophi agree with those of the *P. nigripennis* Oliv., excepting that the obliquely truncated portion of the mandibles is a little longer, and the terminal joint of the labial palpi is equal to the preceding joint.

I had made the above description and remarks before an opportunity offered to compare the individuals with Latreille's description of his *P. lecheguana* (Ann. des [391] Sc. Nat. tom. 4, p. 335,) which I find it closely resembles, and to which I should refer it, but for the character attributed to that insect of having only the "bord posterior des cinq premiers anneaux de l'abdomen jaune," whilst all the segments of the tergum of our species are margined with yellow, and the anal segment is also of that color, in all the specimens which I have seen; all the segments of the venter, moreover, are margined with the same color excepting the basal one. These differences induce me not to withhold this description, as we may reasonably infer that others exist, which can be detected only by comparison. Whether this species is the artificer of either of the nests figured by Hernandez and copied by Latreille in Humboldt's Zoology, I cannot determine, but it seems highly probable. The observation of Latreille relative to the insects that construct those nests, (or at least one of them, for they are very unlike each other) seems judicious, that "j'ai lieu de soupçonner que ces insectes sont identique ou peu differens," from his *P. lecheguana*.

COLLETES Latr. Klug.

C. INÆQUALIS.—Labrum with four indentations near the base. Inhabits Indiana.

♀ Body black with pale cinereous hair: labrum on the basal half, with four obvious indentations; thorax with the hair dusky on the disk; wings hyaline; nervures fuscous: tergum with very short dusky hair; that of the anterior portion of the basal segment, and on each side of that segment, longer and whitish or

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pale cinereous; posterior margins of the segments with white hair, beneath [392] which the surface is dull piceous at tip; basal segment with a longitudinal impressed line at base: venter, segments on the posterior margin with dull whitish hair.

Length about half an inch.

♂ With more dense and obvious hair on the front.

Length less than half an inch.

In warm days of March and April, this species may be observed flying about near the surface of the earth.

SPHECODES Latr.

S. CONFERTUS.—Black, abdomen rufous, black at tip; punctures dense.

Inhabits Indiana.

Body black, with close-set punctures: head rather small with whitish hairs; mandibles piceous black: thorax, middle thoracic longitudinal line very distinct, punctures equally close-set: scutel with the impressed line, continued from the thorax: wings hyaline: abdomen polished: three basal joints rufous; remainder black.

Length three-tenths of an inch.

Resembles the *gibbus* F., but is smaller; with a proportionally smaller head and much more dense puncturing on the thorax and scutel.

HYLÆUS Latr.

H. MODESTUS.—♀ Black, opaque: abdomen polished: hypostoma on each side with a triangular whitish spot: collar with an abbreviated, transverse, yellowish line each side: pleura with a yellowish spot under the humerus: wings hyaline, with blackish nervures: feet with whitish knees. [393]

Length over one-fifth of an inch.

♂ Head beneath the insertion of the antennæ, pale yellow: antennæ beneath dull ochreous: basal joint beneath, pale yellow: collar immaculate: tibiæ and tarsi pale yellowish, the former with a black spot near its tip.

Length about one-fifth of an inch.

The spots on the head of the female, are like those of *H. variegatus* F., but it is a very different species.

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ANDRENA Fabr. Klug.

A. VALIDA.—♀ Entirely black, immaculate; hair very short, dense, giving to the thorax and head a velvet-like appearance: head with the hair of the cheeks, tip of the nasus and outer inferior edge of the mandibles longer: mandibles with a rather strong tooth before the tip: wing-scale glabrous: wings purplish-fuliginous, the darkest portion at tip; stigma honey-yellow: metathorax, surface not concealed by hairs, with separate punctures and except at base, canaliculate in the middle; at base is a transverse space of much larger, confluent punctures, behind which space is a narrow glabrous space at the origin of the groove; lateral margin hairy: tergum with very short hairs not concealing the surface; first segment concave and deeply canaliculate on the anterior face; segments with a transverse, impressed, submarginal, posterior line; on the first and second are two: venter, segments with long, rather dense hairs.

Length seven-tenths of an inch.

A large and fine species.

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HALICTUS Latr.

1. H. NIGRICORNIS Fabr. (*Centris*.) This appears to be the male of *H. viridula* Fabr. (*Megilla*), and the same as *H. nigricornis* Coqueb. (*Andrena*) and *H. sericea* Forster.

2. H. RADIATUS.—♀ Green; metathorax behind with a radiated disc.

Inhabits Indiana.

Body green, polished; hairs numerous, short, cinereous, not obscuring the general color: antennæ black, more or less tinged with piceous, particularly beneath: nasus before black, ciliate; labrum piceous: mandibles yellow towards the base, piceous at tip: wings tinged with fuliginous; nervures brownish, supplementary nervure at tip of the radial cellule very distinct: metathorax at base having numerous, elevated longitudinal or oblique lines; on the posterior declivity is a somewhat orbicular disk, distinguished from the general surface by an elevated line equally distinct all around; it is radiated with elevated lines: tergum sometimes tinged with blue or purplish; each segment with a

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slight inequality or impressed transverse line, near the middle: feet dark piceous; tarsi and knees somewhat paler.

Length over two-fifths of an inch.

3. *H. LABROSUS*.—♀ Greenish; tergum purplish, segments margined with blackish.

Inhabits Mexico.

Body green, with a purple reflection: antennæ black: nasus at tip blackish: labrum black, much elevated at the middle of the tip; the elevation grooved before; mandibles black, tinged with piceous at tip: wings hyaline, slightly tinged with fuliginous; nervures fuscous: metathorax [395] with the including line of the posterior disk, prominent only towards the petiole: tergum darker purplish than the thorax; the broad posterior margins of the segments, blackish: feet, purplish and blue: tarsi blackish-piceous.

Length about two-fifths of an inch.

About the size of the preceding, from which it differs materially in color, and in the sculpture of the metathorax.

4. *H. PURUS*.—Green; first recurrent nervure confluent with the dividing nervure of the second and third cubital cellules.

Inhabits United States.

♀ Body green, polished, tinged with brassy or cupreous: antennæ black: labrum and mandibles piceous, the latter sometimes almost honey-yellow: metathorax at base lineated; no distinct posterior disk, but the groove is well impressed, and there are often near the petiole, a few, obsolete, raised, converging lines: wings hyaline, very slightly dusky at tip; nervures brown; radial nervure fuscous; stigma pale yellowish; second recurrent nervure exactly uniting with the tip of the dividing nervure of the second and third cellules: tergum obviously varied with brassy; posterior slender margins of the segments dark purplish or blackish, sometimes not obvious: feet dull piceous: venter dull piceous.

Length less than three-tenths of an inch.

♂ Head, thorax and metathorax, greenish-blue: mandibles and labrum, dull honey-yellow: thighs obviously tinged with bluish-green: venter on the middle segments green.

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Length less than one-fourth of an inch.

A very common species. I have found their nests in [396] the soft, decomposing sap-wood of the Oak and Hickory, between the bark and the solid wood. Their cells are oval, horizontal, not symmetrically disposed, though many are parallel. These cells are composed of particles of the decayed wood, agglutinated together. Each cell contains an individual, subsisting on a yellow pollen, enclosed with it by the parent. In the same assemblage are the young of all ages to the perfect insect.

The male varies in having the tibiae and tarsi yellowish-white, with more or less of green on the middle of the posterior tibiae.

The preceding species, distinguished by their polished green color, are also remarkable by the very obtuse emargination of their eyes, or, in other words, the curvature of the inner side of the eye: they might very properly constitute a division of the genus.

5. *H. LIGATTS*.—Black; tergum banded with whitish.

Inhabits United States.

♀ Body black, with whitish cinereous hairs on the head and stethidium: wing-scale honey-yellow: wings hyaline, tinged with yellowish towards the base; postcostal nervure black; first recurrent nervure entering the second cubital cellule near, but not at the dividing nervure: metathorax at base having the depressed surface granulated or very minutely lineated; posterior face sub-orbicular, slightly concave: tergum having the posterior margins of the segments white with prostrate hair, beneath which the surface is piceous: venter a little hairy; posterior margins of the segments obscurely piceous: feet tinged with piceous, paler towards their tips; the posterior with pale ferruginous hair.

Length about three-tenths of an inch.

♂ Antennæ beneath, ochreous, excepting the first and [397] second joints: nasus, labrum and middle of the mandibles, yellow: wings with the nervures darker: tergum not so very obviously banded: feet black: tibiae and tarsi, yellow; the former having a black spot on the anterior middle of the posterior pairs.

Length three-tenths of an inch.

A very abundant species. The male is a little longer than the female.

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The scutelliform base of the metathorax is more or less sculptured with slightly elevated, longitudinal lines.

5. *H. PARALLELUS*.—Black; tergum banded: wings and feet ferruginous.

Inhabits Indiana.

♀ Body black, somewhat hairy; hairs yellow-cinereous: nasus ciliate with ferruginous hairs which extend over the labrum: antennæ with the third joint but little longer than the fourth: wings pale ferruginous, dusky at tip; second cubital cell quadrate, the basal and terminal nervures being quite parallel: tergum, each segment with a very obvious posterior margin of whitish-yellow hairs: feet ferruginous, the base of the thighs and coxæ more or less blackish.

Length less than half an inch.

CERATINA Latr.

C. DUPLA.—Blue; much punctured.

Inhabits Indiana.

♀ Body deep blue, densely punctured, a little polished: antennæ black: nasus with a white spot, sometimes obsolete: thorax with an impressed line; disk with few punctures and more polished: wings but slightly dusky; nervures blackish: wing-scale dark piceous, impunctured: [398] tergum more densely punctured towards the tip; basal segment on the anterior face impunctured, polished; remaining segments with a distinct line on their anterior submargins, curving backward on each side; between this line and the basal edge, particularly on the third and fourth segments, the surface is but little punctured and is polished, resembling a small segment: feet blackish, with piceous tarsi and whitish hair: pleura with a small yellow point under the wing-scale.

Length a little over three-tenths of an inch.

♂ Nasus and quadrate spot on the labrum, white; anterior tibiæ whitish on their exterior edge.

Length one-fourth of an inch.

The spots on the nasus, labrum and pleura, as well as the line on the tibiæ in the male corresponds with those of the male of *C. albilabris* F., but the general color is altogether different. A 1837.]

variety? is destitute of the spot on the labrum and has but a very small spot on the nasus.

The maxillary palpi sometimes appear to have six joints.

I am not sure that the male above described, is that of the present species.

STELIS Panz.

S. OBESA.—Black, varied with yellow; wings fuliginous.

Inhabits Indiana.

Body robust, convex, punctured, black: nasus, mandibles at base, orbits anteriorly and abbreviated line behind, yellow: thorax with a yellow, arcuated line each side extending on the anterior margin: scutel somewhat indented [399] towards the tip, margined behind with yellow, which is slightly interrupted in the middle: wings fuliginous; nervures fuscous: tergum, six yellow bands, the anterior one widely interrupted, the others gradually less so to the penultimate one which is confluent; the ultimate one broadest, entire: venter yellowish at base: feet yellowish; thighs and posterior face of the tibiae partly black.

Length over one-fourth of an inch.

In the abdominal markings it resembles some species of *Anthidium*, but the maxillary palpi have two joints.

OSMIA Panz. Latr.

1. *O. LIGNARIA*.—Dark bluish; thorax and base of the tergum, with cinereous hair.

Inhabits United States.

♀ Body very dark bluish: head with cinereous hair: nasus very profoundly emarginated: antennæ black: thorax with cinereous hair; wing-scale black-piceous: wings with a slight fuliginous tinge, particularly on the costal half of the radial cellule; nervures blackish: tergum, basal segment with cinereous hair; remaining segments with short blackish hair; anal segment blackish: beneath a little darker than above: feet and ventral hair blackish.

Length about nine-twentieths of an inch.

♂ Hair of the head before dense, rather longer, and whitish; pectus, pleura and feet with cinereous hair; venter blackish; nasus very slightly and obtusely emarginate.

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Length about seven-twentieths of an inch.

A common species, nidificates in old wood. Forms a [400] dilated oval cocoon of a ferruginous color. It seems to approach *Megilla metallica* Fabr., which however is said to be large, black-bronze, with white wings.

2. *O. BUCCONIS*.—Black; tergum with slender white bands. Inhabits Indiana.

♀ Body black, with rather short gray hairs, and obvious dense punctures: head rather large, long between the eyes and thorax: nasus entire: mandibles with a patch of dense prostrate hairs near the tip: wings hyaline: nervures fuscous: wing-scale piceous: tergum with short, blackish hairs; segments rather convex, narrow, white bands of prostrate short hairs, wider each side; towards the posterior extremity with numerous white, short hairs, obvious in profile; posterior tarsi with longer hairs, tinted with ferruginous: venter with fulvous hairs.

Length over three-tenths of an inch.

♂ Resembles the female, but is smaller, and the tail has four distant denticulations.

Length one-fourth of an inch.

CÆLIOXYS Latr.

1. *C. 8-DENTATA* nob. Appendix to Long's Expedition, p. 353. [Ante 1, 239.]

♀ Body rather more slender than that of the male; the abdomen conic and polished; head before a little pruinose, with short hairs; thoracic lines white and less obvious than in the male; feet black; tibiæ and tarsi more or less piceous; tergum, with the bands white and all of them single, those of the male are tinged with yellow.

The *Anthophora bidentata* F., which is said to be [401] a *Cœlioxys*, is described as having the abdomen brown and with only two spines.

The antennæ of the tail of the *8-dentata*, resembles that of *C. conica* L., but the middle spines are much more robust and obtuse; the bands are more distinct and the abdomen opaque in the male.

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2. *C. ALTERNATA*.—Bands of the tergum alternately interrupted; ♂ tail 10-spined.

Inhabits Indiana.

♂ Body black, punctured; the punctures not much crowded: head with short, white hair, almost naked on the vertex: front with long, white, dense hair: antennæ, tip of the basal joint obscurely piceous: thorax an interrupted, arcuated, white line before, curving over the wings; a line before the scutel, and another at its tip, white: wing-scale dull honey-yellow: wings yellow fuliginous, more dusky at tip: tergum polished, punctures more sparse than on the thorax; segments, particularly the basal ones, white on their posterior margins; and each segment excepting the ultimate and basal ones, with a white interrupted band before the middle; tail concave above, with about ten spines: feet black, more or less piceous: venter banded with white.

Length over two-fifths of an inch.

♀ Hair on the front, short; wings destitute of the yellow fuliginous color, excepting on the stigma.

Length over half an inch.

NOMADA Scop. Latr.

1. *N. VINCTA*.—Tergum with yellow bands, which are obsoletely margined with ferruginous.

Inhabits Indiana.

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Body black: head beneath the antennæ, ferruginous: orbits yellow: antennæ ferruginous, dusky about the middle; terminal joint paler: collar yellow: thorax each side over the wings, with a dull ferruginous margin; before the wings a yellow spot: wing-scale honey-yellow: wings slightly dusky, particularly the terminal margin: nervures honey-yellow: scutel subbilobate, yellow line on the middle, posterior margin ferruginous: metathorax near the scutel with a transverse line and an irregular, longitudinal, quadrate spot each side behind, yellow: tergum with a yellow band, gradually contracted towards the middle, and obsoletely margined with ferruginous, before the middle of each segment; anterior band a little undulated or denticulated: pectus with a triangular, yellowish spot over the fore-feet: coxæ, with a yellow

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spot: thighs ferruginous, blackish behind: tibiæ and tarsi ferruginous and yellow: venter with two yellowish bands; towards the tip, honey-yellow.

Length ♀ nine-twentieths of an inch.

♂ Ferruginous; orbits and head before, yellow; antennæ blackish towards the tip; first joint yellow beneath; collar, line over the wings, two obsolete ones in the middle, wing-scale excepting a dot in the middle, yellow; scutel undivided, yellow; metathorax in greater part, yellow; abdomen yellow, posterior margins of the segments black, submargins ferruginous. Rather more slender than the female.

2. *N. BISIGNATA* nob. Appendix to Long's second Expedition.—The male has the head black, with the nasus and mouth yellow; antennæ beneath, rufous; the thorax has hardly any appearance of ferruginous; but the scutel in some specimens is of that color; the thighs, particularly [403] the posterior pair have more black than those of the female. [Ante 1, 239.]

Var. Abdomen rufous, immaculate.

EPEOLUS Latr.

E. FUMIPENNIS.—Black; thorax bilineate, ferruginous all around.

Inhabits Mexico.

Body densely punctured, black: head carinate between the antennæ: antennæ honey-yellow at base, beneath: labrum with an obsolete, minute, ferruginous dot each side: mandibles honey-yellow at base: thorax with two slender whitish abbreviated lines and whitish lateral edge: collar with a ferruginous disk, contracted in the middle; a ferruginous dot before the wings: wing-scale and scutel ferruginous: wings fuliginous: tergum, first and second segments with a yellow band, the first broader and widely interrupted; remaining segments with a whitish band, the last segment with the addition of an obscure rufous terminal margin: tibiæ and tarsi honey-yellow.

Length three-tenths of an inch.

The *lunatus* nob. also has a bilineated thorax, but it is a larger species, has a whitish spot around the base of the antennæ; lunated spot at base each side of the tergum, &c. Smaller than *mercatus* F. and *scutellaris* nob.

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MACROCERA Latr.

1. *M. OBLIQUA*.—♂ Thorax with yellowish hair; tergum fasciate, second segment with an oblique band.

Inhabits Indiana.

Body black: head and stethidium with long, dull yellowish [404] hair: hypostoma and labrum yellow: antennæ, excepting the basal joint, beneath piceous: mandibles yellow at base, with a piceous spot, honey-yellow in the middle and blackish at tip: wings slightly fuliginous; nervures dusky: tergum, first segment at base, with hair as on the thorax; second segment with a broad basal margin of whitish prostrate hair, and a narrow oblique one on the middle; third and fourth segments with oblique bands of the same color on their middles; fifth with the band obvious and a little oblique, intermixed with longer hairs.

Length nearly three-fifths of an inch.

I have numerous specimens, all of which are males. The hair of the head and thorax is slightly tinted with ferruginous.

2. *M. BINOTATA*.—Black; wings blackish.

Inhabits Indiana.

♀ Body black: head and thorax, particularly the latter, with short hair, that of the occiput and behind the scutellum a little longer: labrum with prostrate hair: wings blackish violaceous: tergum on some parts, with a slight purplish reflection; fourth segment with a transverse-quadrate white spot of prostrate hair on each side, upon its posterior margin: posterior tibiæ and tarsi, with the long hairs whitish.

Length about nine-twentieths of an inch.

♂ A little smaller than the female; nasus and labrum pale yellow; antennæ beneath, dirty yellowish; wings not so dark as in the female; tergum immaculate.

Although it has some points of specific similarity with the preceding, yet it differs so widely from it in other respects, that with much hesitation, I have concluded to give it a distinct place.

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3. *M. PRUINOSA*.—Tergum with much dilated white bands; double on the second segment; hair on the thorax yellowish.

Inhabits United States.

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♂ Body black: stethidium clothed with yellow-ferruginous hair: head, hair on the superior part like that of the thorax: nasus with a large, yellow, transverse spot before: labrum with prostrate whitish hairs, and generally an obscure yellowish, longitudinal line: antennæ, rather short, beneath excepting the basal joints, dull piceous: wings hyaline: tergum, first segment, except at its tip, hairy like the thorax; second segment with a white band at base and another on the posterior submargin, united at the sides; posterior margin and transverse middle black; third and fourth segments white with black posterior margins; remainder white; tarsi ferruginous.

Length two-fifths of an inch.

♀ Antennæ, color as in male: nasus immaculate: posterior feet with long ferruginous hair.

Length nearly half an inch.

A common species; at first sight somewhat like *obliqua* nob. which however is much larger, the bands of the tergum much narrower and more oblique than in the present species. In magnitude this species does not seem to differ widely from that which Drury names *annularis* ii. *pl.* 37, *f.* 7. That figure is, however, a very uncertain one, even as respects its genus, and in my copy of the work, does not at all agree with the description which accompanies it.

The bands of the tergum have a pruinose appearance in consequence of the shortness of the hair of which they are composed. The antennæ of the male do not reach the posterior extremity of the thorax. [406]

4. *M. RUSTICA*.—Tergum with white bands, double on the second segment; hair of the thorax whitish.

Inhabits Indiana.

♂ Body black, with whitish hair: antennæ longer than the stethidium; beneath, excepting the three basal joints, dull piceous: nasus white: thorax with whitish hair: wing-scale black: wings hyaline; nervures fuscous: tergum, first segment, excepting at its tip, hairy like the thorax; bands white, not much dilated; second segment with one at base and another behind the middle, confluent each side; remaining segments with a band on the middle of each: tarsi towards their tips ferruginous.

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Length under seven-twentieths of an inch.

♀ Body much more robust; less hairy; but the bands of the tergum are rather wider, sometimes almost interrupted in the middle; hair of the posterior feet yellowish; antennæ rather short; nasus black.

Length nearly two-fifths of an inch.

A smaller species than *pruinosa* and much like it; but it may be distinguished by the much longer antennæ of the male, by the nasus being all white, and by the whitish or almost uncolored hair of the head and thorax.

When recent, the color of the eyes is light blue, with three or four transverse, moveable series of longitudinal dark spots.

MEGACHILE Latr.

M. POLLICARIS.—♂ Anterior tarsi dilated, deeply ciliated, appendage rather long; spines of the anterior coxæ yellow.

Inhabits Louisiana.

Body not very hairy, black: wings with a slight fuliginous [407] tint, particularly at tip: tergum oblong sub-quadrate: anal segment with a sinus in the tip, each side of which are small inequalities of the edge: anterior feet, coxæ with prominent yellow spines, rufous on the exterior tip; thighs yellow, black at tip and base; tibiæ black, yellow within and at tip, on the posterior tip a very short, acute spine; tarsi much dilated and deeply ciliated behind, yellow-white, covered in their greatest part by a yellow broad scale, which is honey-yellow at tip: nails honey-yellow: intermediate tarsi cordate, the lobes of one side more prominent.

Length eleven-twentieths of an inch.

Mr. Barabino sent me this species. It differs in many respects from the *M. latimanus* nob. (Western Quarterly Reporter) which has in that species the anterior coxæ black; the appendage of the anterior tarsi shorter, &c., but it is perfectly congeneric with it, as well as with *Anthophora lagopoda* Fabr., if I may judge by the similarity of the anterior feet, though it certainly approaches *Steles* in the paucity of ventral hair. The maxillary palpi of *latimanus* have the second joint rather longer than the first.

M. BREVIS.—Black; not remarkably hairy; anterior tarsi simple; abdomen short.

Inhabits Indiana.

♂ Body black, somewhat polished: head densely covered with long, yellowish hairs in front: thorax with whitish hair, sometimes tinged with yellowish, and not concealing the surface: wings a little fuliginous, tinged with violaceous: venter not, or hardly longer than broad: tergum with small, dense punctures, and a narrow, white band on each segment; anal segment transversely concave, at its tip emarginate, in the middle and on each side, [408] the edge has several small denticulations: anterior tarsi simple: tarsi piceous at their tips.

Length less than two-fifths of an inch.

♀ A little larger than the male; with very little hair on the front; abdomen short conic-oval; venter hairy.

Length two-fifths of an inch.

The male of this species closely resembles that of *pugnatus*, so much so, that it might readily be considered as the same; but the anterior tarsi are not dilated, and the abdomen, although similarly terminated, is remarkably shorter.

M. PUGNATUS.—Black; anterior tarsi dilated in the male, with the first joint prolonged at its anterior angle beyond the tip of the second joint.

Inhabits Indiana.

♂ Body black, not densely hairy: head densely covered with long whitish hairs in front: thorax with whitish hair not concealing the surface: wings fuliginous, tinged with violaceous; venter longer than broad: tergum with small, dense punctures; and a narrow white band on each segment; anal segment transversely concave, at its tip emarginate in the middle, and on each side the edge has several small denticulations: anterior tarsi whitish, dilated, and ciliated; anterior tip of the basal joint prolonged a little beyond the tip of the second joint, and its whole length excavated before; anterior tip of the second joint also prolonged almost to the tip of the third joint; fourth joint not dilated: anterior tibiae with dilated crowded punctures: anterior coxae, each with a prominent, black spine: intermediate and posterior tarsi piceous at tip.

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Length over two-fifths to nearly half an inch.

? Frontal hair shorter and less conspicuous; anterior feet simple; venter with dense yellow hair.

Length over half an inch.

[409]

It is smaller, much more slender and much less hairy than either *latimanus*, or *pollicaris* nob., and has a somewhat different habit.

ANTHOPHORA Latr.

1. *A. ABRUPTA*.—♂ Black; thorax with cinereous hair; nasus and labrum whitish.

Inhabits Indiana.

Body robust: antennæ on the anterior side of the basal joint, whitish: nasus, and each side of it to the eye yellowish, a little tinged with fulvous in the middle: labrum pale yellowish, hairy: mandibles having a whitish spot near their outer base: thorax, pleura and pectus, clothed with whitish cinereous hair: wings hyaline; nervures fuscous; stigma not at all dilated: pleura with an oblique line of black hairs passing downward and backward from the posterior wings: tergum with much shorter and less dense hair than that of the thorax, and black; that of the basal segment a little longer, and near the metathorax partaking of the color of the hair of that part: feet black; the longer hairs of the anterior pair are whitish.

Length over half an inch.

It is less robust than *A. pilipes* F. and is equally well clothed with hair on the anterior part of the body, but the transition of color between the hair of the thorax and that of the tergum is much more abrupt. It has much the appearance of a small humble-bee and also resembles *Andrena thoracica* F.

2. *A. FRONTATA*.—Thorax with yellowish hair; hypostoma and basal joint of the antennæ beneath, and spot at base and near the tip of the mandibles, yellow.

Inhabits Louisiana.

[410]

♂ Body black: hypostoma yellow and with yellow hair: antennæ with the inferior longitudinal half of the basal joint yellow, and with dense yellow hair: nasus yellow, with yellow hair: labrum black, covered by the hair of the nasus: mandibles with

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a yellow oval spot at base and a slender obsolete one near the tip: maxilla with an obsolete yellowish spot before the palpi: palpi with a few rigid hairs; terminal joint one-third the length of the preceding joint: tongue ferruginous: vertex in the middle, having a few yellow hairs: thorax with dense, long, yellow hair: wing-scale blackish: wings with a slight dusky tint; nervures black, exterior recurrent nervure entering the outer cubital cellule directly opposite to the outer nervure of the cellule: tergum hairy; hairs black, rather long; a few yellow hairs towards the middle of the first segment: anterior feet with yellow hair on the posterior edge: hind feet, hairs not much elongated.

Length half an inch.

Sent to me by Mr. Barabino. Differs from the *abrupta* nob., in being less robust, the hair of the thorax being pale yellow, and the mandibles having a white spot near their tips.

3. *A. TAUREA*.—Thorax pale, with a dusky central spot, from which proceed two lines to the anterior angles.

Inhabits Indiana.

Body black with whitish cinereous hair: head, hair on the vertex dusky: thorax with whitish hair; a large, obvious, central, dusky spot, with a line curving from it to each anterior angle of the thorax: scutel, hair dusky: metathorax and first segment of the tergum, with cinereous hair; remaining segments of the tergum with the hair very short and black, excepting on the posterior margins which are pure white: ♀ ultimate segment with [411] a glabrous, subcarinate, triangular, oblong space above: wings hyaline; nervures fuscous; stigma not suddenly dilated: terminal third of the radial cellule slightly separated from the edge of the wing; terminal nervure of the third cubital cellule inserted at the middle of the nervure of the radial cellule.

Length ♂ about two-fifths; ♀ half of an inch.

The thoracic spot will readily distinguish this species. The manners and habits of the species may be likened to those of the *A. parietina* Latr. It digs a cylindrical hole in compact clay or adhesive earth on the side of a bank, or in earth retained amongst the roots of an overturned tree. The hole is two or three inches in depth. The sides and bottom are of a dark brown color, quite

smooth and somewhat polished, containing a quantity of white pollen, considerably larger than the artificer itself. The entrance consists of a cylinder extending downwards from the mouth of the hole, more than an inch in length, and consisting of small pellets of earth compacted together, very rough on the exterior and smooth within. A species of *Odynerus* was numerous in the same locality in which I observed the above, and sometimes entered the holes; but the exterior cylinder does not agree with that which is attributed to *O. muraria* Latr. which Kirby and Spence inform us is composed of "little masses so attached to each other, as to leave numerous vacuities between them, which give it the appearance of filagree-work." Many of the tubes of the *taurea*, have a fissure above, throughout the whole length; resembling in this respect the shell *Siliquaria*. It does not agree with Fabricius' description of *Melecta remigata*. [412]

XYLOCOPA Latr.

X. CAROLINA Fabr.—This species was referred by Fabricius to the genus *Centris*, and is even now generally considered as belonging to that genus. But doubting the accuracy of that arrangement, I found on examination, that the labial palpi are rectilinear, the terminal joints being in a right line with the others, and the maxillary palpi are six-jointed. The mandibles have only one large tooth, which is on the inner side. The circumstance of Fabricius referring to Drury's fig. 1, pl. 43, of vol. i, for *Bombus virgineus* Linn., leads me to suppose that he had this species also in view in that description. But as that description in the Syst. Piez. p. 346, agrees very well with one of our largest and finest species of *Bombus*, rather than introduce a new name, I would transfer the quotation of Drury's figure to the description of *X. carolina*, (*Centris*), F. I add the following description of it, which I formerly drew out, with the name of *valida*, under the belief that the *carolina*, is really a *Centris*, and therefore altogether different.

Blackish; a prominent, compressed, obtuse tubercle between the antennæ; thorax hairy.

Inhabits United States.

♀ Body black, tinged with purplish: head with close set,
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discoidal punctures; an obvious, compressed tubercle between the antennæ, rounded at its tip: labrum conic: thorax tinged with greenish; with pale yellow hair, except on the middle: wings fuliginous, subopaque at tip: tergum tinted with very obscure green: basal joint covered with pale yellow hairs: pleura beneath the wing, with yellow hairs.

Length about four-fifths of an inch. [413]

♂ Nasus white. The tubercle of the head is very distinct.

Common in the Union. The males may be distinguished by their larger and more approximate eyes and white nasus. It varies in having the hair of the thorax and of the first abdominal segment, almost ferruginous.

2. X. LATERALIS.—Violaceous; abdomen with a posterior lateral cinereous spot.

Inhabits Mexico.

♂ Body blackish-violaceous: head black: nasus and labrum white: antennæ with an anterior white line on the radical joint: genæ with a few gray hairs: wings, first recurrent nervure entering the third cellule within the distance of its own breadth from the nervure of intersection of the third cellule: abdomen, each side near the tip with a cinereous spot of hair, extending upwards on each side of the venter, but becoming obsolete towards the base.

Length over seven-tenths of an inch.

BOMBUS Latr.

1. B. SONORUS.—Yellow; head, thoracic band and abdomen behind black.

Inhabits Mexico.

Body yellow: head black: thorax with a broad black band in the middle: wings violaceous-black: tergum with the first, second and third segments yellow, the others black: beneath black.

Length ♀ four-fifths of an inch.

Resembles the *fervidus* Fabr. so closely that it may readily be mistaken for it, but that species has only two segments of the tergum clothed with yellow hair; that of [414] the second one, however, is so much elongated as to conceal a considerable portion. 1837.]

tion of the next segment. The color is a much deeper yellow than that of *fervida*.

2. *B. EPHIPPIATUS*.—Black; pleura and base of the tergum yellowish.

Inhabits Mexico.

Body black: pleura pale yellow: wings dusky, tinged with violaceous: tergum pale yellow towards the base; this color is gradually narrowed behind and terminates on the third segment, forming somewhat of a semioval, with its base to the thorax and confluent with the color of the pleura.

Length less than half an inch.

3. *B. TERNARIUS*.—Yellowish; thorax fasciate; tergum fulvous in the middle.

Inhabits Indiana.

Head black: thorax with dull yellowish hair, and a blackish band on the middle: wings with a slight yellowish tinge; nervures fuscous: tergum fulvous on the second and third segments; first and fourth segments yellowish; remaining segments black.

Length ♂ nearly three-fifths of an inch.

TRIGONA Jurine, Latr.

1. *T. BILINEATA*.—O Blackish; antennæ, beneath, labrum and two lines on the nasus pale.

Inhabits Mexico.

Body piceous black; flagellum of the antennæ beneath, obsolete narrow anterior orbits, two rather broad lines on the hypostoma, labrum and mandibles somewhat pale: wings hyaline, slightly tinged with fuliginous towards the base; cubital cellules obsolete divided into three by two [415] hardly perceptible nervures; ultimate cellules hardly attaining to the tip of the wing; the second receiving the recurrent nervure: feet not different in color from the body; posterior tibiæ with the ciliæ of the edge sparse.

Length less than one-fourth of an inch.

It is somewhat smaller, and less robust than the *ruficrus* Latr. of which the posterior tibiæ are densely ciliated. I am indebted to Dr. Klug for a specimen of the *ruficrus*: and it is very different from the *amalthea* and *spinipes* Fabr. My specimens are

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workers, and I did not find the nest or ascertain the kind and importance of the honey they make. The generic name is almost too much like *Trigonia* of Conchology, but as the pronunciation differs it can remain.

2. *T. LIGATA*.—○ Blackish; abdominal segments margined with ochreous.

Inhabits Mexico.

Body brownish-black, hairy; antennæ beneath, particularly the basal joint, anterior half of the anterior orbits, line distinguishing two lobes of the hypostoma and mouth, dull yellowish: wings slightly tinged with fuliginous, particularly towards the base; nervures of the cubital cellules like those of the *bilineata* nob., but the first one is much more distinct: tergum shortly hairy; posterior margins of the segments ochreous: feet dull honey-yellow; tip of the posterior tibiæ and base of the first tarsal joint black.

Length about two fifths of an inch.

Of this I obtained but a single specimen, which is a worker. It is widely different from the preceding species, particularly in being hairy, and is much larger and of a somewhat different habit. I have carefully compared it with Latreille's descriptions and figures of *Melipona* [416] *favosa* Illig., *scutellaris* Latr., *fasciata* Latr., *interrupta* Latr., and other species as given in Humboldt's Zoological Observations; and even should it be referred to that genus notwithstanding its denticulated mandibles, I have endeavored to draw out such characters as may distinguish it from them. Latreille, however, says of *Melipona*, "Mandibles sans dentelures apparentes" which entirely includes this species, although it agrees in habit.

ADDITIONS AND CORRECTIONS.

- Page 35, in note, for Weidmann read Wiedemann.
 57, line 6, for TERGIS[SA] read TERGIS[S]A.
 94, after description of *F. SCUTELLARIS*, add:
 [A distorted specimen probably belonging to *Platynus*
 (*Agonum*) *melanarius*. Similar distortions are found in other
 species.—LEC.]
 98, line 7 from bottom, for *Copdotomus* read *Coptotomus*.
 109, to note after *E. OBESUS*, add:
 at all approaching this species in size.—LEC.]
 130, line 6 from bottom, for SPÆRIDUM read SPHÆRIDUM.
 153, line 8, for ANTRICATA read EXTRICATA.
 160, line 7 from bottom, for *Ichnomera* read *Ischnomera*.
 176, line 21, for *Erchinus* read *Erirehinus*.
 177, line 19, for CUCULIO read CURCULIO.
 212, line 18 from bottom, for STIATA read STRIATA.
 224, line 15, for *Criacercis* read *Crioceris*.
 230, line 7 from bottom, for PENICILLATUS read PENICELLATUS.
 272, line 16, for *Hydaticas* read *Hydaticus*.
 277, after description of *C. JACTATA* dele note, and add:
 [Belongs to *Telephorus*.—LEC.]
 301, line 11 from bottom, for *primona* read *primoria*.
 475, line 4 from bottom, for *fascidita* read *fastidita*.
 477, after description of *F. DECORA*, add:
 [Also a *Platynus*.—LEC.]
 518, line 17, for 15-PUNCTATUS read 12-PUNCTATUS.
 525, line next to bottom, for Fabr. read Latr.
 528, after remarks on *C. BIPUSTULATA*, add:
 [This is the insect afterwards considered by Dejean the
 same with the Brazilian *C. crenata*, but is known at present
 as *Aspidoglossa subangulata*.—LEC.]
 584, line 8 from bottom, for *T. faber* read *T. brunneus*.
 590, in line 22, add [158].
 637, line 6, for MARGINALIS read MARGINALIS.
 664, line 6 from bottom, for MELITUS read MELLITUS.
 672, to title in line 1, add May, 1836, and change the date at
 bottom of pages 673—745, to 1836.

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